

NORTH AMERICAN RCS VENDORS IN EUROPE
A COMPARATIVE STUDY

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AUTHOR

North American RCS Vendors
in Europe - A Comparative
Study.

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NORTH AMERICAN RCS

VENDORS IN EUROPE

- A COMPARATIVE STUDY -

PREPARED FOR

IBM EUROPE

DECEMBER 1980

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I INTRODUCTION

I INTRODUCTION

- o This report was commissioned by IBM in a letter dated October 3, 1980 referencing a proposal submitted by INPUT Ltd.
- o The basic requirement was to provide information on the strategies and current position of the major North American vendors active in the European Remote Computer Service (RCS) market.
- o The scope and contents of the report have been progressively reviewed and agreed with Mr. Ian Wallace from IBM RCS.
- o It was agreed that the report should concentrate on the collective, rather than the individual characteristics of the RCS vendors in Europe. For this reason there are fewer detailed profiles but more overview than outlined in the proposal.
- o The following vendors were selected for profiles and appear in section IV:

GEISCO

Computer Sciences Corporation

ADP Network Services

National CSS

COMSHARE

Scientific Timesharing Corp.

I.P. Sharp

CISI

- o Data sources include INPUT's Company Analysis and Monitoring Program (CAMP) for Western Europe, knowledge of individual INPUT Consultants, and interviews with selected RCS vendors.
- o Data has also been provided on revenues for RCS vendors in Europe in 1977 and 1979.
- o The report does not, and was not intended to, provide recommendations to IBM concerning its own activities in the RCS market. It should, however, be seen as providing 'snapshots' of the major vendors' activities, and as a means of identifying further areas for more detailed study.

II EXECUTIVE SUMMARY

II EXECUTIVE SUMMARY

A. THE EUROPEAN RCS MARKET

- o From very modest beginnings in the late 1960's the RCS market in Europe has reached a total turnover of nearly \$1,000 million in 1979.
- o The major multinational vendors including both North American and European based companies account for some \$500 million of this revenue.
- o This multinational market is shared between Hardware manufacturers, North American independants and European vendors.
- o North American independant vendors accounted for some \$200 million of revenues in 1979.
- o This report reviews some of the reasons for this significant growth and examines attitudes, strategies and aspirations for these vendors.

B. THE NORTH AMERICAN INFLUENCE

- o North American independants are the most aggressive vendors in the European RCS market, and have cornered a significant market share.
- o A high proportion of revenues are true exports of U.S. Services to Europe as processing takes place in the U.S.
- o Although a major proportion of these revenues comes from U.S. Multinationals, there is a not insubstantial number of European companies who process sensitive data on these U.S. data centres.

- o North American vendors of RCS services are profitable and maintaining stable high growth rates.
- o Alternative delivery modes such as USHS will ensure that these vendors maintain their momentum in Europe.

C. MARKET STRATEGIES

- o North American vendors in Europe operate with profit as their main objective.
- o Expenditures on marketing, image promotion and competitive knowledge is low, leading to a low profile in the market in general.
- o Most vendors select market segments in line with their strengths and hence frequently meet little competition.
- o The traditional timesharing base is being strongly attacked by stand-alone minis. Most vendors are meeting this threat by developing DDP offerings or packaging their software for in-house use.
- o Most vendors concentrate on selling to end-users and avoid internal DP departments who are unlikely to be sympathetic to external services.
- o Most vendors are aware of IBM RCS but do not believe that IBM represents a threat to them in their chosen markets.

D. MARKET SHARES

- o Exhibits II-1 and II-2 show the 1977 and 1979 RCS revenues, derived by country respectively, for the major multinational companies operating in Europe.

- o Exhibits II-3 and II-4 show similar data but only for North American based, non-hardware vendors while Exhibits II-5 and II-6 contains like information for European vendors.

EXHIBIT II-1

1977 RCS REVENUES - MULTINATIONAL VENDORS (\$ mill)

RCS VENDORS	France	Germany	U.K + Eire	Italy	Scandin.	Netherl.	Switzerl. Austria	Belgium	Other	TOTAL
IBM	16.5	12.3	13.1	5.3	13.0	7.0	7.0	3.7	1.2	79.1
GEIS (ex Honeywell)	11.5	5.5	17.7	5.2	7.5	5.1	0.8	3.4	0.6	57.3
CDC	4.8	7.2	6.0	-	6.2	4.7	0.1	3.2	0.4	32.6
CISI	20.5	-	7.2	-	-	-	-	0.6	-	28.3
GSI	19.1	2.9	4.0	-	-	-	-	-	-	26.0
ADP	-	0.5	7.5	1.2	-	1.8	0.2	0.9	0.3	12.4
Comshare	*	-	10.9	-	-	0.9	-	0.3	-	12.1
UCC	-	3.8	5.1	-	-	1.1	-	1.8	-	11.8
Tynshare	5.9	1.2	2.4	-	-	-	-	0.6	-	10.1
Sligos	9.0	*	-	-	-	-	-	0.4	-	9.4
Datema	-	0.4	-	-	5.5	0.1	-	-	0.2	6.2
Seicon	-	-	5.9	-	-	0.1	-	-	-	6.0
Atkins/On line	-	-	5.5	-	-	0.1	-	-	-	5.6
HP Sharp	*	0.3	2.2	0.2	0.4	*	0.7	0.3	-	4.1
CSC	-	0.2	0.2	*	*	0.1	*	0.3	0.5	1.3
N CSS	0.3	*	0.8	-	-	-	-	-	-	1.1
TOTAL	87.8	34.3	88.5	11.9	32.6	21.0	8.8	15.5	3.2	303.4

EXHIBIT II-2

1979 RCS REVENUES - MULTINATIONAL VENDORS (\$ mill)

RCS VENDORS	France	Germany	U.K. + Eire	Italy	Scandin.	Netherl.	Switzerl. Austria	Belgium	Other	TOTAL
IBM	23.5	17.6	18.9	7.6	18.5	10.0	10.0	5.3	1.7	113.1
G.E.I.S. (ex Honeywell)	16.1	11.0	27.0	7.1	10.3	15.0	1.6	6.2	1.7	95.9
CISI	46.4	0.4	12.7	-	-	1.4	-	1.0	*	61.9
GSI	34.0	5.1	7.0	0.3	-	-	2.4	0.4	2.8	52.1
CDC	6.5	10.2	7.8	0.6	8.8	6.2	0.3	3.8	0.6	44.8
Comshare	*	-	20.0	-	-	1.0	-	1.0	-	22.0
ADP	0.5	1.0	12.0	1.0	-	2.5	0.4	1.2	0.4	19.0
UCSS/OLS/Atkins	-	0.5	13.8	0.2	-	0.4	2.0	-	0.3	17.2
Tymshare	9.2	1.5	2.2	-	-	-	-	1.2	-	14.1
Sligos	12.0	*	-	-	-	-	-	0.6	-	12.6
UCC	-	1.0	8.1	-	-	1.3	-	2.0	-	12.4
IP.Sharp	0.5	0.8	3.6	0.7	1.3	1.5	1.1	0.8	-	10.3
Datema	-	0.5	-	-	7.3	0.3	-	-	0.3	8.4
CSC	0.3	0.5	1.0	0.8	*	0.3	*	1.3	2.2	6.5
Scicon	-	-	5.7	-	-	0.2	-	-	-	5.9
N CSS	0.5	*	1.8	-	-	-	-	-	-	2.3
TOTAL	149.5	50.2	141.6	18.3	46.2	40.1	17.8	24.8	10.0	498.5

EXHIBIT II-3

1977 RCS REVENUES - NORTH AMERICAN INDEPENDANT VENDORS (\$ mill)

RCS VENDORS	France	Germany	U.K + Eire	Italy	Scandin.	Netherl.	Switzerl. Austria	Belgium	Other	TOTAL
GEIS (ex Honeywell)	11.5	5.5	17.7	5.2	7.5	5.1	0.8	3.4	0.6	57.3
ADP	-	0.5	7.5	1.2	-	1.8	0.2	0.9	0.3	12.4
Comshare	*	-	10.9	-	-	0.9	-	0.3	-	12.1
UCC	-	3.8	5.1	-	-	1.1	-	1.8	-	11.8
Tynshare	5.9	1.2	2.4	-	-	-	-	0.6	-	10.1
Atkins/On line	-	-	5.5	-	-	0.1	-	-	-	5.6
JP.Sharp	*	0.3	2.2	0.2	0.4	*	0.7	0.3	-	4.1
CSC	-	0.2	0.2	*	*	0.1	*	0.3	0.5	1.3
N CSS	0.3	*	0.8	-	-	-	-	-	-	1.1
TOTAL	17.7	11.5	52.3	6.6	7.9	9.1	1.7	7.6	1.4	115.8

EXHIBIT II-4

1979 RCS REVENUES - NORTH AMERICAN INDEPENDANT VENDORS (\$ mill)

RCS VENDORS	France	Germany	U.K. + Eire	Italy	Scandin.	Netherl.	Switzerl. Austria	Belgium	Other	TOTAL
GEIS (ex Honeywell)	16.0	11.0	27.0	7.1	10.3	15.1	1.6	6.2	1.7	95.9
Cornshare	*	-	20.0	-	-	1.0	-	1.0	-	22.0
ADP	0.5	1.0	12.0	1.0	-	2.5	0.4	1.2	0.4	19.0
UCS/OLS/ATKINS	-	0.5	13.8	0.2	-	0.4	2.0	-	0.3	17.2
Tynshare	9.2	1.5	2.2	-	-	-	-	1.2	-	14.1
UCC	-	1.0	2.2	-	-	1.3	-	2.0	-	12.4
IP.Sharp	0.5	0.8	3.6	0.7	1.3	1.5	1.1	0.8	-	10.3
CSC	0.3	0.5	1.0	0.8	*	0.2	*	1.3	2.2	6.5
N CSS	0.5	*	1.8	-	-	-	-	-	-	2.3
TOTAL	27.0	16.3	89.5	9.8	11.6	21.5	5.1	13.7	4.6	199.5

EXHIB. II-5

1977 RCS REVENUES - EUROPEAN VENDORS (\$ mill)

RCS VENDORS	France	Germany	U.K. + Eire	Italy	Scandin.	Netherl.	Switzerl. Austria	Belgium	Other	TOTAL
CISI	20.5	-	7.2	-	-	-	-	0.6	-	28.3
GSI	19.1	2.9	4.0	-	-	-	-	-	-	26.0
SLIGOS	9.0	*	-	-	-	-	-	0.4	-	9.4
Datema	-	0.4	-	-	5.5	0.1	-	-	0.2	6.2
Scicon	-	-	5.9	-	-	0.1	-	-	-	6.0
TOTAL	48.6	3.3	17.1	-	5.5	0.2	-	1.0	0.2	75.9

EXHIBIT II-6

1979 RCS REVENUES - EUROPEAN VENDORS (\$ mill)

RCS VENDORS	France	Germany	U.K. + Eire	Italy	Scandin.	Netherl.	Switzerl. Austria	Belgium	Other	TOTAL
CISI	46.4	0.4	12.7	-	-	1.4	-	1.0	-	61.4
GSI	34.0	5.2	7.0	0.3	-	-	2.4	0.4	2.8	52.1
SLIGOS	12.0	*	-	-	-	-	-	0.6	-	12.6
Datema	-	0.5	-	-	7.3	0.3	-	-	0.3	8.4
Scicon	-	-	5.7	-	-	0.2	-	-	-	5.9
TOTAL	92.4	6.1	25.4	0.3	7.3	1.9	2.4	2.0	3.1	140.9

III STRATEGIC OVERVIEW

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A. BACKGROUND

1. THE DRIVE TO ENTER EUROPE

- o The RCS market in the U.S. received, as far as independents are concerned, a substantial boost from the settlement between IBM and CDC in 1969 which effectively excluded IBM from selling processing services in the U.S.
- o However, by 1972, the rate of growth of the RCS business in the U.S. had slowed sufficiently to encourage interest in other markets. Europe, with the next largest collective 'GNP' in the Western world, was an obvious choice.
- o Growth in the U.S. market came largely from multilocal corporations seeking an easy-to-use source of computing power accessible to local as well as corporate management.
- o The extension of this concept to encompass multinationals' worldwide operations was inevitable, and Europe was the obvious choice.
- o The U.K., with a common language and a large potential market in London, mainly because of its status in world finance, was the obvious entry point.
- o Only three vendors, IBM, CSC and CDC do not have their European HQ in London.
- o For market and technology reasons, indigenous European RCS activity was national in scope and relatively small in size.
- o U.S. vendors therefore embarked on programmes of expansion into Europe, via direct entry and acquisition.
- o Of the 15 major RCS vendors in the U.S., no less than nine are active in Europe in the RCS market as shown in Exhibit III-1.

EXHIBIT III-1
MAJOR U.S. COMPUTER SERVICES PROCESSING COMPANIES

<u>VENDOR</u>	<u>INPUT ESTIMATED U.S. 1978 REVENUE (\$ MILLION)</u>	<u>ACTIVE IN RCS IN EUROPE</u>
AUTOMATIC DATA PROCESSING	\$ 290	YES
CONTROL DATA CORP	250	YES
ELECTRONIC DATA SYSTEMS	210	YES
GENERAL ELECTRIC INFORMATION SERVICES	140	YES
TYMSHARE	130	YES
BUNKER RAMO CORP	120	NO
MCDONNELL DOUGLAS AUTOMATION	110	NO
NCR	110	NO
BRADFORD	100	NO
ITEL DATA SERVICES *	85	NO
COMPUTER SCIENCES CORP	85	YES
UNITED COMPUTING SYSTEMS	70	YES
BOEING COMPUTER SERVICES	65	YES
NATIONAL CSS	60	YES
TRW ELECTRONICS	60	NO
SHARED MEDICAL SYSTEMS	60	NO
REYNOLDS & REYNOLDS	45	NO
XEROX COMPUTER SERVICES	45	NO
STATISTICAL TABULATING CORP	40	NO
QUOTRON	40	NO
FIRST DATA RESOURCES	40	NO
INFORMATICS	35	NO
NATIONAL DATA CORP	35	NO
OPTIMUM SYSTEMS	30	NO
GRUMMAN DATA SYSTEMS	30	NO
DATA RESOURCES	30	YES
NATIONAL SHAREDATA CORP	30	NO
MARTIN MARIETTA DATA SYSTEMS	25	YES
COMSHARE	25	YES
PLANNING RESEARCH CORP	20	NO
UNIVERSITY COMPUTING CORP	20	YES
COMPUTER NETWORK CORP	20	NO
TOTAL	<hr/> \$2,455	

* NOW DEFUNCT

2. REASONS FOR SUCCESS IN EUROPE

- o The reason for the success which RCS vendors enjoyed in the U.S. was deeply rooted in the end-users' perception of 'in-house' DP departments and their responsiveness.
- o Timesharing was originally sold as raw time to DP departments with an overload problem. However, as certain kinds of application software, mainly scientific became available, ordinary scientists and engineers become aware that they had a choice this was the use of the batch-processing capabilities of the inhouse mainframe with the attendant low priority and slow turnover or to have a terminal with access over voice-grade telephone lines, and the ability to use a computer interactively.
- o With the spread of knowledge of the benefits of computing, end-users of different kinds deluged the in-house DP organisation with requests for new applications. Because the 'expert interface' between user and machine, normal with in-house DP departments, was thereby completely overloaded, end-users began to look to alternatives.
- o Timesharing vendors were quick to perceive the need. By establishing networks, they were able to achieve three fundamental advantages:
 - To centralise their Software development;
 - To 'load-balance' over different time zones;
 - To give end-users local access to extensive computing power as and when required.
- o These factors, coupled with another very significant advantage which independent RCS vendors enjoy, has enabled them to penetrate and consolidate their position in markets which were hitherto closed to processing services vendors.

- o The additional advantage can be stated very simply - having normally no prior business involvement with prospective clients, their sales to end-users were totally unhampered by corporate strategic considerations, and hence their cost-benefit arguments were objectively put and objectively received.
- o These arguments were, in general, equally well received in Europe. The vendors gained additional off-peak revenue, in U.S. terms, for the cost of transatlantic links, and were better able to service their multinational clients in the way those clients required.
- o Another key factor in the RCS vendors' success in Europe is their ability to coordinate their sales activity in multinational accounts. Each main vendor has a sophisticated internal message system - some indeed sell these systems to their clients - which enables sales and support staff worldwide to communicate and coordinate effectively with each other.
- o In short, U.S. RCS vendors have been able to extend into Europe via the requirements of their multinational clients, and have built up extensive local client bases as a follow-on.

B. MARKET APPEAL

- 1 RCS VENDORS VERSUS 'IN-HOUSE '
 - o RCS vendors do not sell to DP Management. The DP Manager is regarded as a captive client of the hardware manufacturer and the traditional view is that he is naturally inclined to be hostile to any perceived diminution of his control over corporate computing.
 - o Because of their centralised software enhancement capability, RCS Vendors are able to approach end-users with easy-to-use 'building blocks' with which the user himself can develop his own systems.

- o The traditional approach still practised by some vendors (notably Comshare and I.P. Sharp), has been to select rising executives with some computer appreciation and a willingness to be involved in system development, and to sell them on the idea of using RCS-based systems for career-enhancement.
- o There are signs, however, that this 'market' is somewhat saturated, and vendors such as GEISCO, ADP and CSC offer a total implementation service to corporate users who do not wish to be involved directly with implementation.
- o The normal approach is to sell to corporate financial decision-makers with budgetary/modelling system needs requiring remote low-volume access.
- o The typical development time for a three-level, six-country consolidation model involving currency conversion would be 12 to 18 man weeks.
- o Such systems are developed using a combination of Database Management and Financial Modelling products.
- o It is fairly common practice for settled systems to be subsequently rewritten in an ordinary programming language, e.g. FORTRAN, to reduce running costs, where practicable (e.g. report generation).
- o The objective is to offer a high value-added system with short development timescale at cost in terms of development personnel - an area where in-house DP departments, with their required knowledge of the manufacturer's operating system and constraints imposed by existing software/systems, are uncompetitive.

2. RCS VENDORS VERSUS BATCH BUREAUX

- o RCS vendors, in general, avoid competition with Batch Bureaux.
- o This is rational in view of the difference in market. RCS vendors target end-users in large corporations while batch bureaux target small companies, and sell generally volume business such as payroll.

- o RCS vendors are aware that their services are not cost-competitive unless the user perceives a high 'added value'. Payroll, as an example, is normally bought on a 'least cost' basis, and involves application support (changes in legislation etc) which RCS vendors are not prepared to countenance.
- o Some national RCS vendors do, however, compete in this kind of low value added market. This is rather a result of their growth 'upwards' from batch services than a conscious policy of penetrating such markets (i.e. they must continue to service their 'legacy' business despite technological advances).
- o The only area in which multinational RCS vendors compete with batch bureaux is scientific and engineering. The user benefits in this area - interactive access and hence immediate turnaround often outweigh the cheaper processing costs provided by batch bureaux.

3. RCS VENDORS VERSUS IBM

- o RCS vendors normally have a somewhat schizophrenic relationship with IBM.
- o Several vendors such as National CSS, STSC offer their services only on IBM equipment, and hence are clients of IBM.
- o Several large vendors, recognising the residual power of the IBM-installation DP Manager to 'block' applications which cannot be transferred 'in-house' at a later stage, have begun to promote IBM processor based services in addition to their original services GEISCO's MARK 3000 and CSC's CSTS8, are examples of the trend.
- o Yet other vendors offer a product line which owes its existence to IBM, and yet no component of which is obtained from IBM; for example, I.P. Sharp with their services based on AMDAHL processors and Sharp APL being sold effectively into IBM installations for 'in-house' use.

- o IBM RCS, despite having the largest RCS revenues in Europe, is not seen, in general, as direct competition to the multinational vendors.
- o The view RCS vendors have of IBM RCS is conditioned largely by the degree of competition they observe in the market place. They believe that IBM RCS
 - Only sells to IBM DPD accounts;
 - Does not have the software 'depth' that the vendors have;
 - is hampered by IBM internal account politics;
 - Does not understand end-user requirements.
- o Several RCS vendors have succeeded in penetrating IBM accounts in the U.S.
- o This has generated business for them in Europe, as multinational corporations seek to expand their systems into their subsidiaries.
- o Multinational RCS vendors no longer actively sell 'personal computing' which they see as the province of the micro manufacturers/integrators.
- o IBM RCS in Europe is seen often by other vendors as being most active in this area of 'personal computing'. It is interesting to note that Comshare, the only major RCS vendor to name IBM RCS as a competitor, is particularly vulnerable to the micro because of a weakness in developing network based applications.

C. CONSTRAINTS ON GROWTH

1. PERSONNEL RESOURCES

- o Multinational vendors, after the initial transatlantic inspired growth, realised that they required a strong sales presence in Europe in order to develop.
- o Recruitment patterns have varied widely as between European countries.

- o The fact that the U.K. predominates among markets for multinational North American RCS vendors is due as much to the availability of relatively cheap local sales and support personnel as it is to language similarities.
- o All vendors have experienced severe problems in Germany in recruiting the right kind of person to sell RCS services. This is due to
 - a basic lack of computing knowledge among users - and particularly users with the potential to develop their own applications;
 - the strong German sense of hierarchy which hampers effective sales contact at high level by junior personnel.
- o The Netherlands have presented few problems in the recruitment sphere owing to
 - the widespread use of English
 - the acceptability of things American
 - the high technological awareness and business acumen prevalent in Holland.
- o Belgium has posed special difficulties due to the bilingual problem. However the prevalence of multinational headquarters such as ITT, Levi Strauss and Ralston Purina has meant that English speakers can be employed to good effect.
- o France presented a special set of problems. French receptivity to American technology is not matched by a willingness to encourage capital outflow to U.S. based organisations.
- o French financial institutions and the French Government have invested and are investing heavily in the creation of a national 'informatique' industry.

- o U.S. multinational vendors have encountered a somewhat hostile attitude from the French authorities which has manifested itself in a desire to ensure that 'Informatique' vendors not previously active in France must be controlled by French Nationals.
- o Organisation of joint ventures has therefore been the prime constraining factor for the U.S. Multinational vendors.
- o The Scandinavian RCS market is well-developed, with several indigenous vendors including DATEMA and OK DATA. Scandinavian companies, possibly because of the distances involved, are very receptive to RCS and recruitment of suitable personnel has not been a major constraining factor on RCS vendors.
- o The Italian market shows market similarities to that in Germany. Hierarchies, of a different nature to those existing in Germany hinder direct sales contact with decisions-makers, and the 'in-house' philosophy is well entrenched.
- o There is little doubt that were qualified personnel available in equal proportions in these markets, the market growth would be more balanced between each. The fact that it is not is a strong indication of the different attitudes to the concept of RCS prevalent in each country, and explains the disparities in size among these markets.

2. PTT POLICIES

- o Understanding the nature of the different PTT's is a prime consideration for all multinational vendors.
- o As telephone service quality varies between countries, so does PTT receptivity to 'foreign' RCS vendors.

- o The majority of U.S. RCS vendors have some processing capability in Europe as shown in Exhibit III-1.
- o PTT policies on various issues are examined in this section.
 - a. 'Message-switching'
- o An emotive term to many RCS personnel, this means essentially competing with Telex as a means of getting messages from A to B.
- o Most vendors have sophisticated message systems which they use for internal purposes; for example GEISCO's CROSSFILE, CSC's EUROMESSAGE and SHARP's MAILBOX.
- o PTT'S vary in their definition of 'message-switching' and some refuse to define it in order to maintain 'flexibility'. The net result is that most vendors do not allow their customers to use the message software for fear that should a PTT find out and disapprove, leased line provision could be withdrawn.
- o I.P. Sharp, however, have reached the view that they can sell MAILBOX, on the grounds that
 - It is person-to-person, not place-to-place;
 - Users must interrogate the system.
- o MAILBOX now represents 40% of Sharp's European revenue.

EXHIBIT III-1

North American RCS Vendors' Processing Capability in Europe

<u>Vendor</u>	<u>Site of European Hardware</u>
IBM	Various
GE ISCO	Netherlands
CDC	Various
ADP	U.K.
Comshare	U.K.
UCC	Various
Tymshare
UCS	Switzerland, U.K.
I.P. Sharp
CSC	Spain
NCSS
STSC
IDC

b. Trans - border data flow

- o All multinational vendors, in order to achieve economies of scale, move data across international frontiers.
- o PTT and Government attitudes are hardening in Europe on trans-border data flow and the resultant loss of data processing revenues.
- o Germany, for example, has stated that provision of private leased lines to multinational RCS vendors will be terminated at the end of 1981 and that from that time 50% of processing must take place in Germany.
- o Any serious attempt by PTT's to enforce this kind of protectionist policy would act as a brake on the expansion of RCS vendor's revenues.

c. PTT's as distributors

- o One vendor, CSC, has a licence arrangement with Entel Ibermatica, a subsidiary of the Spanish PTT, who act as distributors of INFONET in Spain and also via a subsidiary in Italy.
- o This has enabled CSC to obtain 'most-favoured' status for PTT use of RCS in several instances, and has also assisted CSC to come to a similar arrangement in Mexico.
- o That arrangement effectively bars other vendors from competing realistically in Mexico.
- o CSC are currently pursuing other such opportunities in Latin America.

d. Public switched networks provided by PTT's

- o Availability of public networks offers a significant opportunity to RCS vendors.

- o The main reason is that it extends reasonable dial-up costs to places not within local call range of their nearest network node.
- o The main RCS Vendors are developing X25 interface capabilities to enable interconnection with public networks.
- o For further information on PTT strategies, refer to the INPUT report 'Strategies for the Computing Services Industry in Western Europe 1980-1989' June 1980.

3. The 'ALTERNATIVE MODE' THREAT

- o In terms of basic product life cycles Batch, Remote Batch and classic Timesharing modes of delivery are now well past their peaks.
- o Equated to current operating System environments we have reached the age of the multi-level scheduler and distributed data processing.
- o In terms of end-user cost/benefit equations mini and micro systems are rapidly undermining the established values of RCS Services.
- o RCS vendors are effectively losing the middle-ground - the medium size establishment user with the real potential for growth to the mini and micro vendor or distributors.
- o They are facing three basic product options:
 - enhancement and development of their network access services;
 - new marketing techniques and 'products' to appeal to the small, probably first time user;
 - joining in the battle, with the multitude of alternative suppliers, for the medium scale users' business, basing their offerings on in-house intelligence.

- o The first option, extended network service offerings, is being successfully pursued by some of the major companies. It implies major account marketing strategies; heavy investment in network facilities; and in Europe, the pitfalls and dangers of relating to or breaching the PTT monopolies.
- o The second option is being pursued by the smaller, essentially Batch-oriented Companies who, by concentrating their marketing either geographically or on cross-industry packaged services such as payroll, are able to offer cost effective proven services to the smaller establishment by appealing to the conservatism of the mass of management at this level.
- o Turnkey vendors, small software houses with OEM agreements from DEC, HP, Data General etc. have helped to promote this mini-boom in Batch Services by their general inefficiency and lack of true packaged service facilities until very recently.
- o Both these options, however, ignore the greatest, largest long-term potential product line growth - Distributed Data Processing (DDP).
- o The majority of significant RCS companies have recognised this and are producing an often bewildering range of in-house processing options for attachment to their networks or host systems. USHS (User Site Hardware Services) is by definition a Distributed Data Processing option.
- o The general reluctance to move this way until quite recently, has been caused by a combination of 'the ostrich' syndrome and economies.
- o The ostrich syndrome has been perpetuated for this length of time partly by the general lack of 'user-friendliness' of mini computer systems in commercial environments and partly by IBM's own historical reluctance to endorse the DDP concept.
- o The economic argument has been that any revenue stream lost from the central host system would impact profitability or return on investment.

- o Having taken the bit between their teeth, however, RCS companies are finding that they in fact have a winning combination - USHS.
- o Their long experience in offering end-user solutions, in whatever mode, enables them to apply their management and marketing skill equally effectively to USHS products.
- o The ability to offer user control of repetitive processing functions and more processing capability for the same, or a little more, in monthly charges; and still to offer the security, capability and sophistication of back-up, central host computers makes a very appealing product offering.
- o The total range of micro, mini and even small main-frame systems that they can incorporate within the USHS umbrella, expands their target market potential from the smallest to the very largest companies.

D. PRODUCT STRATEGIES

- o Product and services strategies in a service industry are essentially diverse, as they must allow for flexible response to changing client needs.
- o Some definite trends can be observed, however, within the area of RCS vendors.

1. SINGLE-SOURCE ACCOUNTABILITY

- o One of the prime reasons for the success of RCS vendors in general is that they have developed most of the components of the service they offer themselves. Indeed, the most successful are the ones who, by maintaining control of all aspects of the service, are able to provide the end-user with single source accountability.
- o It is not inconceivable that, in the future, the only elements which they do not make themselves - hardware - will come under their control possibly by acquisition.
- o All RCS vendors are developing alternative delivery modes. RCS vendors are, in effect, using their retained profits and strong market position to move into other sectors of the Computer Services business. USHS, as being developed by GEISCO, ADP, CSC and NCSS, leads to 'dedicated turnkey systems' and brings RCS vendors into competition with mini vendors; sale of software for in-house use such as I.P. Sharp's APL competes with software product vendors and growth in system implementation teams by vendors such as GEISCO, ADP and CSC leads to competition with professional services vendors.
- o One market segment into which RCS vendors are uniquely placed to diversify is the rapidly growing market for on-line database services.
 - RCS vendors have already developed the networks and sophisticated retrieval software to enable them to act in the 'serveur' role (i.e. distributor).

- It is unlikely that they will create and maintain their own databases, however, as they would need to buy in editing skills which they do not possess.

2. CROSS-INDUSTRY OR INDUSTRY SPECIFIC ?

- o The Pareto principle applies strongly to RCS vendors, with 20% of clients generating 80% of revenue and 20% of products generating 80% of revenue.
- o RCS sales people are expensive to train and maintain. They must sell relatively high to end-users, and overcome a knowledge barrier. They must therefore be used wisely.
- o Mass selling techniques are therefore inappropriate, and the product strategies of RCS vendors recognise this. In going for the 'value-added' concept they recognise that their service is not for everybody.
- o The stress which vendors place on 'development tools' as opposed to 'products' reflects this. The 'tools' stop short of defining the users requirements, but allow those requirements when defined to be implemented very quickly.
- o RCS vendors therefore have an extremely 'cross-industry' approach to the market, while, strangely, their clients in most cases are developing extremely 'industry-specific' applications.

3. HOW DO THEY DEAL WITH INDUSTRY-SPECIFIC APPLICATIONS ?

- o The key to this question is that the ideal RCS sales person is not only extrovert, presentable, widely experienced and knowledgeable about computers but also has specific industry application expertise.

- o Such people are not superabundant.
- o RCS vendors, then, try to exploit such people wherever they find them, whether they be employees, clients or third parties.
- o There are three basic approaches to this utilisation;
 - the 'External Author'
 - the 'Reseller'
 - the 'Licensee'.
- a. The External Author'
- o In this approach, practised by GEISCO,
 - The Author is responsible for software loading and conversion costs, for deciding the royalty factors, for programme storage charges and for marketing, support and maintenance;
 - The Vendor is responsible for administration, including collection of royalties, which are then passed to the author less an administration charge.
- o The External Author approach effectively frees the vendor from any responsibility for the products' performance or recurring charges, and places the responsibility squarely on the author to market, sell and support the clients.
- o This approach is obviously only practicable for a large vendor with authors queuing up to use the vendor as a distributor - e.g. GEISCO.

b. 'The Reseller'

- o In this approach there is no formal agreement between the vendor and the author, other than a normal service contract. The author is invoiced by the vendor for all usage at normal rates. He then 'marks them up' and invoices his clients.
- o Resellers are often able to obtain favourable terms from vendors based on volume or negotiated discounts, as the vendor does not have to support the resellers clients.
- o Vendors often require the reseller to absolve them from all responsibility for the reseller's clients, even to the extent of requiring the reseller not to reveal the vendor's name.
- o This approach is not favoured by large vendors as it clearly leads to loss of account control.

c. 'The Licensee'

- o This approach is essentially a compromise between the two previously mentioned.
- o The vendor undertakes certain marketing responsibilities and provides the author with free machine time for the loading, conversion and maintenance of the software.
- o Royalties will normally be set by the vendor on the basis of sharing royalties between the vendor and the author.
- o This is probably the most common method.

4. HOW DO THEY STRUCTURE THEIR PRODUCT SUPPORT ?

- o Being essentially technical companies finding themselves with a marketable product, it is not surprising that most RCS vendors still adopt the traditional product support approach; that is, the use of technical product managers responsible for the product itself rather than its application.
- o Most vendors have realised, however, that application knowledge is paramount when dealing with end-users, and have structured some sales personnel into non-geographic sales territories (e.g. Government, Engineering, Banking etc.)
- o Only one vendor, Comshare, has seen the logic of extending this back into the product support area. Comshare's success reflects the wisdom of this policy.

E. MARKET STRATEGIES

1. MARKET PHILOSOPHY

- o The RCS business is essentially entrepreneurial, and in Europe as in the U.S. is largely dominated by personalities.
- o There is a marked difference between the North American vendors' and the Europeans' approach to marketing.
- o The North American vendors are essentially driven by a desire for short term profitability, whereas the Europeans are cushioned against short-term considerations by Banks and Government investment policies which do not require such short-term returns.

- o Most North American vendors started out with a view of Europe as one market which would be run with sales personnel only, with all product and marketing being provided from the U.S.
- o Experience has changed this view.
- o Whereas North American vendors like, for profitability reasons, not to employ marketing personnel in Europe, the non successful ones have come to recognise that direct knowledge of European markets and requirements is essential.
- o It is noticeable that the vendors with least success in Europe are those who have not taken full account of the differences between North America and Europe, and between the different Markets in Europe such for example, National CSS and Rapidata.

2. CORPORATE 'IMAGE'

- o No independant RCS vendor has achieved anything like a household brand name in Europe.
- o Very little resource is applied to image promotion.
- o This is basically for two reasons:-
 - They lack solid, tangible products;
 - They don't believe it is cost-effective.
- o The net result is that for every 'bluebird' - sales enquiry - received by an independant in Europe, IBM RCS probably receives five, or even more.

3. BROCHURE AND PRODUCT MATERIAL

- o The larger vendors do produce some product and sales literature in local languages.

- o No transatlantic vendor has succeeded in any market without locally geared literature.
- o Some vendors still seem to think that literature produced in the U.S. for the U.S. market is adequate for use in 'Europe'.

4. SEMINARS/EXHIBITIONS

- o Most vendors organise free seminars for invited prospects lasting from one-half to a full day. This has proved an effective way of selling.
- o RCS vendors occasionally participate in exhibitions but normally only when they are geared to specific industry segments.

5. COMPETITIVE AWARENESS

- o As compared to other industries, no great effort is expended on competitive analysis and tracking.
- o Most individuals know who their competitors are through their client contacts.
- o In an expanding market, there is obviously less need to be concerned with market share, although most vendors use market share as the main indicator of their relative success.
- o Most vendors will query competitive rankings. This is a function of their strengths and weaknesses in different market segments as they all think they are the best in their chosen segments !
- o Exhibit III-3 lists some of the views vendors have of themselves.

Exhibit III-3

Self-perceptions of
some
RCS Vendors

GEISCO - 'Largest RCS vendor in the world'

ADP - 'Largest independant RCS vendor'

CSC - 'Largest independant company specialising in Information Sciences'

National CSS - 'Best database product available'

COMSHARE - 'Fastest growing RCS Vendor'

SHARP - 'Largest vendor of APL services'

TYMSHARE - 'only vendor offering value-added networks'

CISI - 'largest European RCS Vendor'

GSI - 'Europe's leading company in the computing Services industry'

DRI - 'largest vendor of economic services'

IV INDIVIDUAL PROFILES

A. GEISCO

1. OVERALL STATISTICS

- o Ownership: 85.1% - General Electric Corp.
15.9% - Honeywell Information Systems Ltd.
- o Turnover in Europe in 1979 - \$101 million
- o Revenues obtained from RCS - \$96 million
 - AAGR for RCS revenues from 1977 to 1979 : 29.3%
 - The remaining \$5 million is accounted for by Professional Services (\$2 million) and Terminal Sale and Rental (\$3 million).
- o Number of access points in Europe: 92
- o Number of staff employed in Europe: Approximately 1200.
- o Operations are divided into 4 regions, as follows:
 - Northern Region - UK, Benelux, Scandinavia
 - France Region - France
 - Central Europe Region - Germany, Austria, Switzerland
 - Mediterranean Region - Italy, Spain
- o Region Managers report direct to the General Manager in Kingston.
- o Exhibits IV-1 and IV-2 are summaries of GEISCO's European operation.

C O U N T R Y	O P E R A T I O N	TOTAL REVENUES (\$M)	RCS REVENUES (\$M)	No. of STAFF	NETWORK ACCESS POINTS
EUROPE - HQ - KINGSTON					
		-	-	30	-
NORTHERN REGION					
UNITED KINGDOM	100% SUBSIDIARY	28.0	25.5	470	18
NETHERLANDS	100% SUBSIDIARY	16.0	15.0	100	5
BELGIUM/LUXEMBURG	60% OF JOINT VENTURE	6.5	6.2	47	3
SWEDEN	100% SUBSIDIARY	2.5	2.3	20	5
NORWAY	100% SUBSIDIARY	1.6	1.4	12	2
IRE	RUN AS BRANCH OF U.K.	1.5	1.2	10	1
		56.1	51.6	659	34
FRANCE REGION					
FRANCE	100% SUBSIDIARY	16.5	16.0	150	22
CENTRAL EUROPE REGION					
GERMANY	100% SUBSIDIARY	11.5	11.0	170	15
AUSTRIA	100% SUBSIDIARY	0.9	0.8	18	2
SWITZERLAND	100% SUBSIDIARY	0.9	0.8	20	2
		13.3	12.6	208	19
MEDITERRANEAN REGION					
ITALY	100% SUBSIDIARY	7.5	7.1	120	12
SPAIN	100% SUBSIDIARY	0.5	0.5	8	1
		8.0	7.6	128	13
EUROPE - DIRECT CONTROL DISTRIBUTORS					
		93.9	87.8	1175	88
DENMARK		5.2	4.8	34	2
FINLAND		1.8	1.8	16	2
		7.0	6.6	50	4
EUROPE - TOTAL					
		100.9	94.4	1225	92

2. EUROPEAN MARKETING HQ, KINGSTON, UK

o The European HQ, with a staff of about 30, acts in a co-ordinating as well as a line management role. All functions and personnel in Europe report through country management to Kingston.

o The specific functional areas covered by HQ are:

- Legal and Employee Relations

All matters relating to personnel policies and legal and contractual matters are cleared through this function, unless they apply to one country only in which case they are handled by local organisations. This group also sets overall guidelines on employee benefits and related matters.

- Financial Planning and Analysis

This function controls overall financial planning for the European operations, as well as administrative HQ matters. Inter-company transfers, taxation and transactions between Europe and the U.S. are handled by the group.

- Marketing Planning

This function is responsible for defining marketing policy in Europe. The three prime sub-functions are

- . International accounts, with 4 people, co-ordinate policy towards multinational clients, and act as the main channel for information flow between US and European Sales personnel. They also undertake direct account co-ordination within Europe.

- . Training, advertising and sales promotion is responsible for co-ordinating the policy of individual countries with regard to advertising and literature production. Direct publications activity is initiated through this function for Europe-wide literature. Co-ordination of requirements for US initiated literature in Europe is also handled.
- . Marketing Analysis, Pricing and Contracts maintains competitive information, undertakes feasibility studies on new products/services, co-ordinates pricing policy in Europe, and handles contractual arrangements with external suppliers. The function also acts as an interface on product planning matters between Europe and the US.

- Technical Services

This function acts as the final backstop in Europe for all technical product and network queries and problems from sales and support personnel. Managers and specialists covering products/languages, network and professional services are employed in this group, which also functions as the main technical liaison channel between Europe and the US. Some personnel are based in Holland.

3. INDIVIDUAL COUNTRY OPERATIONS

a. U.K. - GEISCO LTD

- o U.K. 1979 turnover is \$30 million with an average growth rate of 21%. INPUT estimates that \$27.0 million of this revenue comes from RCS services with \$3.0 million from professional services and terminal rental.

o The U.K. operation employs some 470 people with its headquarters in London.

o The UK operation has offices in:

London (2 + HQ)	Cheadle Hulme
Potters Bar	Leeds
Slough	Glasgow
Bristol	Edinburgh
Birmingham	Aberdeen
Nottingham	

o The UK Sales force is run as four regions:

- London North
- London South
- North
- South West

o 'Sales and sales support' and 'Customer Services' are operated separately. 'Sales and sales support' means direct sales and technical support to prospects and clients. 'Customer Services' is a catch-all for all other services and includes terminal rental, professional services and hot-line support to existing clients. There are approximately 80 sales personnel, 150 sales support personnel, and 100 customer services personnel.

o Graduate recruitment is the main method of personnel addition with the Customer Services function being the lower level at which new recruits enter.

b. France - GEIS S.A.

o Prior to the formation of GEISCO, France was the HQ for all European operations except for distributors, UK and Italy. This HQ function has now been disbanded and France is operated as a region reporting to Kingston.

o GEISCO, as the inheritor of Honeywell Bull NIS in France, has been able to avoid the Government requirement that at least 50% of any companies operating in the 'telematique' field must be owned by French Nationals.

o The French operation turns over \$16.5 million. Of this turnover, INPUT believes that \$16 million represents RCS revenues.

o The French operation has offices in:

- | | |
|---------------------|-------------|
| - Paris (1 plus HQ) | - Nancy |
| - Rouen | - Lille |
| - Nantes | - Lyon |
| - Toulouse | - Marseille |

o HQ functions are established in:

- Administration/Personnel 12
- Finance 10
- Marketing 20

o The French sales force is run directly from Paris and comprises some 90-100 people.

c. Netherlands - GEIS B.V.

o The Netherlands houses GEISCO's European Supercenter. However, this operation is run entirely separately from the Netherlands country/sales organisation.

o Turnover in the Netherlands is \$16 million with approximately \$15.0 million from RCS.

o The Netherlands operation has offices in the following locations:-

- | | |
|------------------|-----------|
| - Amsterdam (HQ) | - Arnhem |
| - Rotterdam | - Utrecht |

o HQ functions cover:

- Admin/Personnel (10)
- Marketing (12)
- Finance (8)

o The Netherlands sales force comprises some 55 people and is run as 5 districts:

- Amsterdam
- Rotterdam
- Utrecht
- Arnhem
- Large Accounts

d. West Germany - General Electric Informations Service GmbH

o This is the only non hardware-manufacturing US RCS vendor to have successfully penetrated the West German RCS market.

o The West German operation turns over approx. \$11.5 million, with \$11.0 million of this representing RCS revenues, and employs some 170 people.

o HQ for West Germany is in Köln (Cologne) with offices in:

- | | |
|----------------------------|-------------|
| - Hamburg | - Stuttgart |
| - Hannover | - München |
| - Essen | - Mannheim |
| - Düsseldorf | - Frankfurt |
| - Eschborn (nr. Wiesbaden) | |

o HQ functions in Köln cover

- Admin and Field engineering
- Sales co-ordination
- Finance
- Professional Services
- Employee relations/training

These functions service Austria and Switzerland as well.

- o The German sales force with some 115 people is organised into two regions,
 - South - based in Eschborn
 - North - based in Köln

e. Italy - General Electric Information Services SpA

- o Turnover in Italy is \$7.5 million, of which \$7.1 million represents RCS revenues.
- o The Italian operation employs some 120 people with its HQ in Milan.
- o The Italian operation has offices in:
 - Turin
 - Genoa
 - Padua
 - Bologna
 - Florence
 - Rome
 - Naples
- o HQ functions are established in Milan covering:-
 - Finance and Administration)
 - Personnel Relations) 15
 - Marketing and Professional Services)
- o The Italian sales force, comprising some 55 personnel, is managed directly from Milan.

f. Belgium/Luxemburg - General Time-Share S.A.

- o This operation is jointly owned (60%) with a local multiservice vendor, CIG. CIG is owned by a large Belgian Bank, and two Belgian multinationals.

- o For reporting purposes, the operation is considered not as a distributor but an integral part of the vendor and the Country Manager reports to the Northern Region Manager in the UK.
- o CIG offers other RCS services in connection with European transnational vendors.
- o The Belgian operation generates total revenues of \$6.5 million, of which some \$6.2 million are RCS revenues.
- o HQ, and the only office, for Belgium/Luxemburg is in Brussels.
- o The Belgian operation employs 47 people of whom some 32 are in sales/sales support.

g. Denmark - O/K Data

- o The distributor of GEISCO's service in Denmark is a local multiservice vendor which is a 100% subsidiary of a Danish Shipping Company. (Danish East Asiatic Co)
- o Turnover in Denmark is some \$5.2 million, \$4.8 million of which is RCS revenue.
- o The distributor employs some 34 personnel in connection with the vendor's service, all based in Copenhagen.

h. Sweden - General Electric (U.S.A) Informations Services AB

- o The Swedish operation turns over \$2.5 million, of which some \$2.3 million are RCS revenues.
- o HQ is Stockholm.

- o The Swedish operation employs some 20 people in offices in Stockholm, Gothenburg and Malmo.

i. Finland - OY Nokia

- o GEISCO's service is distributed in Finland by this large local electronic company.
- o Vendor-associated revenues of some \$1.8 million were generated in 1979.
- o The approximately 15 personnel associated with the vendors service are located in Helsinki.

j. Norway - General Electric (U.S.A) Information Services A/S

- o The Norwegian operation has revenues of some \$1.6 million, of which \$1.4 million is RCS revenue.
- o Some 12 personnel are located in Oslo.

k. Eire - GEISCO LTD

- o The Irish operation is managed as an integral part of the UK, with the manager reporting to a UK Regional Sales Manager.
- o Revenues were some \$1.5 million of which \$1.2 million represents RCS revenues.
- o Approximately 10 people are employed in the only office in Dublin.

l. Austria - "General Electric" Informations Services GmbH

- o Austria, which reports through Germany, had revenues of approx. \$0.9 million, including \$0.8 million RCS revenues.
- o Some 18 personnel work from the two offices in Vienna and Linz.

m. Switzerland - General Electric Information Services AG

- o Switzerland, which also reports through Germany, had revenues of \$0.9 million including \$0.8 million RCS revenues.
- o Some 20 people work from offices in Zurich and Geneva.

n. Spain - General Electric (U.S.A) Information Services, SA

- o The Spanish operation turns over \$0.5 million, and employs some 8 staff in Madrid. Spain reports via Milan.

4. PERSONNEL STRUCTURE

a. Sales Division

- o This section examines the structure of the sales-related areas in the UK Operation. The UK operation is the most developed, with the largest revenues, and is likely to set the pattern for the other country operations.

i. Sales Personnel

- . Sales personnel, Sales, Account Development and Customer Consultants, are formed into Business units under a Business Unit Manager.

- . The Business unit has a geographic or functional territory.
- . Business Unit Managers report to Regional Sales Managers who in turn report to the Sales Director.
- . Sales Personnel are responsible for all customer contact within their accounts.
- . Sales Personnel are recruited primarily from two sources:
 - People with knowledge of specific industry/functional applications and previous sales experience,
 - Sales support personnel wishing to move into selling.
- . Sales Personnel, known as Sales Consultants, are assigned a territory after six months, which may be geographic or functional.
- . Determination of territory is by the Business Unit Manager to whom the Consultant is assigned.
- . The territory assigned does not include any existing accounts, i.e. no base revenue is assigned to Sales Consultants.
- . Sales Consultants are paid a basic salary of approximately 70% of on-quota earnings. Full on-quota earnings is normally guaranteed for the first six months. Sales consultants earn a bonus for new account signings, and multipliers are applied for over-quota performance.
- . Sales Consultants are allocated company cars, normally a Ford Cortina 1.6L.

- . All petrol, including that for private use, is paid for by the company, provided that the employee is not absent from work for a period exceeding 5 days.
- . BUPA is normally provided together with a Company Pension Scheme.

ii. Account Development Personnel

- . Account Development Consultants are recruited normally from Sales Support Personnel, but in any event internally.
- . Account Development Consultants are assigned a territory including only existing accounts with high to medium growth potential. Their objective is to achieve high revenue growth in these accounts.
- . Account Development Consultants are paid a basic salary of similar to Sales Consultants, and have a medium-gearred incentive scheme which enables them to benefit from growth over market expectations. Normally quota would be to grow base revenue by expected market growth rate.
- . Employee benefits are the same as for Sales Consultants.
- . Most of this vendor's continued growth comes from Account Development activity.

iii. Sales Support Personnel

- . Sales Support Personnel, or 'Customer Consultants', are recruited from a wide range of sources such as programmer/analysts, graduate entrants who have gone through induction plus one year in a junior position.

- . Customer Consultants are assigned a territory consisting of existing accounts with limited growth potential. Their objective is to maintain existing revenue levels.
- . Customer Consultants are paid a basic salary of some 90% of on-quota earnings. Bonuses are payable on a low-gear basis for over-quota performance resulting from increasing revenue from base accounts.
- . Employee Benefits are the same as for Sales Consultants.

b. Customer Services Division

- o The Customer Services Organisation, which is separate from the Sales Organisation, is responsible for all associated Professional Services including the implementation of clients' systems on the vendor's RCS service. It is also responsible for general supportive functions such as 'hot-line' assistance.
- o Each sales region has a regional technical support manager who is responsible for Customer Services in his region, and who reports to the Customer Services Director.
- o In addition there is a central resource responsible for quoting on large systems development tasks which are outside the capability of the regional operations.
- o Customer Applications Consultants, who are in essence analyst/programmers, form the bulk of this division. These consultants are not normally on a commission scheme, and do not receive company cars.

c. Other Departments

- i. Marketing & Operations Planning
 - . This division employs some 30 people, and is responsible for;
 - Technical documentation

- Network Engineering support
 - RBT operation
 - Terminal procurement
 - DDP technical development
- . As this division is essentially ancilliary support, few personnel receive cars and none are on commission schemes.
- ii. Sales Promotion Department
- . This department of 12 people is responsible for;
- Production of Sales literature
 - Advertising
 - PR
 - Press relations
 - Corporate Image
 - Internal training support
- . It currently reports to the Sales Director, but is likely to be merged with Employee Relations with whom its functions overlap to some extent.
- iii. Employee Relations Department
- . This department of some 10 people is responsible for:
- Personnel matters
 - Recruitment policy
 - Recruitment Advertising
 - Internal Training
- . The department has the right of veto on all applications for employment, and exercises it frequently, primarily as a check on overall headcount.

iv. Finance Department

- . Responsible for day-to-day financial control.

v. Company Secretary

- . Responsible for legal and contractual matters.

5. MARKETING POLICY

a. Services Offered

o The following services are offered:-

- MARK III FOREGROUND - Interactive access via terminals to Honeywell/GE host computers operating under a proprietary operating system
- MARK III BACKGROUND - Remote Batch access to Honeywell hosts under GCOS MARK III
- MARK 3000 - Interactive and remote batch access to IBM3033
- SALE AND RENTAL OF GE TERMINET RANGE OF TERMINALS

o Service is available 24 hours a day, seven days a week.

o Speeds offered are:

- 50 baud - Telex interface
- 300 baud Asynchronous
- 1200 baud Asynchronous
- 2400 baud - Synchronous

- o Hosts are physically located in the US (2) and the Netherlands in 'clusters'.
- o Any host can be accessed from any point on the network which has over 600 entry points worldwide.

b. Product/Application Focus for Mark III only

- o Main Product offerings are development tools for
 - Database systems (DMS III)
 - Financial and Business Planning Systems (TABOL)
- o DMS III is proprietary and is hierarchical.
- o TABOL is proprietary and is not marketed in the U.S.
- o The two major products are fully compatible and can be interfaced.
- o These two products account for some 60% of revenues and this proportion is increasing.
- o Several packaged 'applications', such as asset management and inventory control, exist and are being marketed. The objective here is to increase client acceptability and reduce tailoring costs.
- o An extensive library of other programs is available but receives scant sales attention.
- o A Distributor Data Processing offering is being developed (see section e. on delivery modes).

- o The Languages supported are BASIC and FORTRAN

c. Target Market

- o The target market can be defined as:

- Large organisations
- Multilocal applications
- End users
- High 'value added'

- o Typical applications would be:-

- Multinational Financial Consolidation
- International Container Tracking
- International Parts/Stock Control
- Banks' foreign exchange P & L reports
- Weekly sales performance analysis

- o This vendor has succeeded in penetrating a large number of the largest European organisations on this basis.

d. Software Policy

- o Because of the network, only one version of any software product, proprietary to the vendor, need be available at any time. Reported 'bugs' can be fixed very quickly.
- o GEISCO prefers, particularly in the cross-industry products area, to use and sell only proprietary products. This results in no cash outflow to software authors.

- o For industry specific applications, GEISCO is prepared to enter into joint ventures with established software vendors. However, the terms are tightly controlled;
 - The software author is required to pay for storage;
 - Royalties are collected by the vendor and passed to the author;
 - A 10% administration charge is deducted from the royalty;
 - Any joint literature is closely scrutinised.
- o GEISCO does not normally buy utilities or basic systems software products.
- o Individual development and tailoring of the basic building blocks and development tools is normally carried out by GEISCO Professional Services staff.

e. Delivery Modes

- o Normal delivery mode is via 300-1200 baud asynchronous terminals, connected by local dial-up through modems to the nearest entry port for the network.
- o An alternative is 2400 baud synchronous using an RBT or intelligent terminal.
- o Because of the high cost incurred in being 'on-line' via the public network for extended periods, a special 'Data-Entry Mode' was introduced. Priced lower, this allowed certain applications which were previously excluded on cost grounds to become feasible.
- o However, this was not the real answer. GEISCO needed to develop some delivery mode which would enable penetration upwards into more transaction-oriented systems.
- o GEISCO has, therefore developed an intelligent terminal based system which extends the market in the required direction. This system is currently being modified for European markets and will be released during 1981 and is described in section 8.

f. Pricing Policy

- o The overall policy is to relate end-user price to sales costs.
- o This results in differential pricing in European countries for the same computer resource cost.
- o Price differentials are roughly;
 - 15% over U.S. price for the U.K.
 - 40 to 60% over U.S. pricing for other countries.
- o The main charging elements are;
 - Computer Resource Unit
(algorithmically derived price per CPU second and disk access time.)
 - (TCH) Terminal Connect Hours
 - Storage charges
 - I/O charges using vendors' RBT.
- o Storage pricing is complex and is differentiated as follows:-
 - Program Storage Unit (PSU)
 - Data Storage Unit (DSU)
 - HISAM Storage Unit (HSU) - used in connection with Databases
- o Price increases are normally annual and designed to
 - Cover inflation
 - Adjust relative costs of charging elements.
- o Discounts are discouraged, but will be arranged for large expenditure commitments. These must be approved by EHQ at Kingston.

g. Languages

- o Language differences in Europe form a barrier to effective international selling.
- o This vendor has developed local language capability in French, German and Italian for the major products.
- o With consolidations, therefore, it is obviously possible for individual countries to enter amounts not only in their local currency, but also in their local language.

h. Contract Terms

- o A signing fee of \$50, or the local equivalent, designed to discourage the non-serious prospect;
- o A monthly minimum of \$50 to discourage the casual user;
- o 30 days notice of cancellation by either side.

j. Professional Services

- o Designed to generate ongoing revenue, this vendor has in place, in most large operations, a 'Professional Services' function for implementing systems on the vendors' network.
- o Professional Services are, expected to be profitable.
- o Professional Services may not quote on any job not for implementation on the vendor's network.

6. SALES POLICY

- o GEISCO sees itself as the IBM of the RCS business, with some justification.
- o Because of its established position, it is able to allow its Sales Personnel to 'follow leads' rather than knock on doors.
 - o The account development philosophy is well-entrenched.
 - o Sales personnel are told that:
 - They are the best
 - They work for the best company
 - They should ignore the competition
- o Individual sales personnel have full account responsibility, even when this requires them to:
 - Co-ordinate internationally
 - Manage implementation tasks
- o Although IBM DCS/RCS has the highest RCS revenues in Europe, they are not viewed as serious competition by GEISCO.

7. NETWORK TECHNOLOGY INFLUENCE ON MARKETING STRATEGY

- o GEISCO has the most extensive commercially available RCS Network in the world.
- o It is developing a 'cluster' concept which means that in the event of failure of a host processor, the traffic can be re-routed to another host which has full access to the DASD's of the failed host.

- o The network is fully redundant with all components allowing rerouting on failure.
- o The claimed uptime of the system is 99.5%.
- o Batch services are operated separately from interactive services, unlike most RCS systems. The vendor sees this as a virtue in that batch processing does not interfere with response times on interactive as is the case with some vendors.
- o An X25 interface will be available shortly.

8. MARKLINK

- o MARKLINK is GEISCO's DDP offering.
- o MARKLINK development was funded by GEISCO, a GE component responsible for warehousing and supply to other GE components.
- o The GEISCO system, when fully implemented, will have 800 terminals on-line.
- o MARKLINK hardware is Texas Instruments 990 and 774 series intelligent terminals.
- o Target applications for MARKLINK are inventory control, order entry and customer enquiry.
- o Price is bundled with service, the components covered being hardware, use of applications software, network access, and maintenance.
- o MARKLINK terminals can be leased or purchased in the U.S. This is not established yet in Europe.

- o Some modifications to the basic MARKLINK product for European requirements are being carried out in London.
- o Lease price likely to be in range £500 - £2500 per month depending on configuration in the U.K.

B. COMPUTER SCIENCES CORPORATION

1. OVERALL STATISTICS

- o Ownership : 100% subsidiary of U.S. Parent.
- o Total turnover in Europe: \$17 million
- o RCS revenues in Europe: \$3.5 million direct
\$3.0 million licensees
 - AAGR for RCS 1977-1979: 143% per annum.
 - Remainder of revenues are Professional Services.
- o Number of access points in Europe: 14 (plus 3 planned)
- o Number of staff employed in Europe: 600 (total)
110 (RCS) - Direct
100 - Licensees
- o RCS operations are managed by country, and the RCS Manager reports to country management who in turn report to the European President.
- o In Spain and Italy, the vendor operates through licensees. These pay a royalty to the US parent on the basis of a percentage of revenues generated. These operations, although linked to the network, do not report in any way via European vendor management.

2. INFONET HEADQUARTERS - BRUSSELS

- o INFONET HQ, with a staff of 18, is headed by a VP. It is responsible functionally for INFONET in non-licensee countries in Europe.
- o The VP for European INFONET has extensive policy control over RCS operations, including pricing, product development and incentive schemes.
- o HQ personnel have specific functional responsibilities and coordinate and direct RCS policy in Europe.

a. European Sales

- o Responsible for coordinating sales effort in multi-country accounts;
- o Responsible for direct selling in Europe in extra-territorial countries.
- o An international accounts manager, with two staff and direct responsibility for certain accounts reports into the European Sales Manager.

b. European Marketing Services

- o Responsible for production of all European sales literature, seminar organisation, Press and PR.
- o Sales literature is produced in three languages.
- o Responsible for European Product Strategy.
- o Functionally responsible for Marketing Services Executives who coordinate activities in individual countries.

c. European Technical Support

- o Responsible for technical support, liaison with U.S. on all technical matters, European product implementation.

d. European System Administration

- o Responsible for internal systems, client accounting and billing (all billing in Europe is done from HQ), credit control, and liaison with U.S. on all internal system matters.

e. European Professional Services

- o Responsible for all policy on RCS-related Professional Services; will normally coordinate or be responsible for Multi-country systems implementation.

f. European Network Support

- o Responsible for the network in Europe; for network extension implementation; liaison with PTT's; all liaison with U.S. centres on network matters; liaison with licencees on network matters.
- o Acts in individual countries through TSE's (Technical systems Engineers) who functionally report to this manager.
- o The budget for Network support is not a European budget. It is controlled by D & O (Development & Operations) in California who are responsible for all network support world-wide.

3. INDIVIDUAL COUNTRY OPERATIONS

a. U.K. - CSC U.K. Computer Sciences Co. Ltd

- o U.K. turnover is approximately \$4 million, of which \$1 million is accounted for by RCS. The remainder is professional services revenue.
- o The U.K. operation employs some 80 people of whom some 20 are involved in RCS activities.

- o The main office is in London.
- o An INFONET office is located in Birmingham.
- o The U.K. INFONET manager has the following functions reporting to him:
 - London East Branch
 - London West Branch
 - Birmingham Branch
 - Engineering Branch
 - Marketing Services
 - Professional Services
 - Account Development
 - Technical Support.
- o The organisation is essentially fluid and changes with personalities. Branch managers are essentially territory sales managers with one to three salesmen.
- o Recruitment is normally from qualified personnel via recruitment agencies.

b. France - Société de Tèlematique et de Logiciel

- o This company was established in 1979 in response to difficulties experienced in establishing acceptance by the French Authorities of CSC's actively trading on its own account in the French market.
- o Prior to this, INFONET clients in France, (almost exclusively multinationals), were invoiced and supported from Belgium.
- o The Company is jointly owned by the PDG (Jacques Penaud) and CSC, through Computer Sciences Europe.
- o The previous sales manager resigned with two technical support personnel following personality disagreements.

- o Staffing is unclear at present but is unlikely to exceed 5 in total.
- o Revenues in France amount to some \$300,000 per annum.
- o The only office is in Paris.
- o It is likely that CSC/STL are continuing negotiations via the French Government Agencies for a more favoured status.

c. Germany - Computer Sciences International Deutschland GmbH

- o INFONET in Germany is operated from CSID's Frankfurt office.
- o Total personnel involved INFONET activities number nine.
- o Main clients are multinationals.
- o Access points are in Munich, Frankfurt and Hamburg.
- o INFONET revenues in Germany are approximately \$500,000 per annum.
- o Penetration has been extremely limited due to
 - Lack of trained sales personnel
 - Lack of network access points

d. Belgium - INFONET Belgium

- o Belgium has been a very successful market for INFONET due to:
 - Large number of U.S. Multinationals Headquartered in Brussels
 - Availability of European-level sales and support resources.

- o Revenues in 1979 were approximately \$1.3 million, with a staffing of 11 people.
- o A new office with network access is being opened in Antwerp.
- o Current access and office is only in Brussels.
- o INFONET Belgium have attracted personnel from COMSHARE and ADP.

e. Netherlands - CSIN

- o The INFONET office is in Zoetermeer.
- o Total personnel number seven.
- o CSC have marketing problems with their INFONET name in the Netherlands due to the existence of a local software vendor owned by ABN with the same name.
- o Netherlands revenues are some \$200,000 per annum.
- o Several management changes have not assisted growth.

f. Spain - ENTEL-Ibermatica

- o INFONET is distributed in Spain by ENTEL, a subsidiary of the Spanish PTT.
- o Headquarters are in Madrid, with subsidiary offices in Barcelona and Bilbao.
- o Entel operate a UNIVAC 1108 under CSTS, CSC's proprietary operating system. This machine is fully connected to the network and provides processing power to Spain and Italy.
- o Entel offer other RCS services.
- o Entel pay CSC in California a royalty based on revenues generated as part of the licence deal to offer INFONET services.

- o Network access is available from Madrid, Bilbao and Barcelona.

- o INFONET revenues in Spain are approximately \$2.2 million.

g. Italy - Informatica Distribuita

- o INFONET in Italy is distributed by Informatica Distribuita SpA, a joint venture between ENTEL (see Spain), GE-DA (a local service bureau), and C.S.I.T SpA. (an ex-subsidiary of CSC)

- o ID currently employ some 35 people on INFONET activities.

- o Headquarters is in Milan, with other offices in Turin and Rome.

- o Network access is currently provided from Milan, Turin and Rome. This will be extended to Genoa and Padua during 1980.

- o ID's INFONET revenues were \$0.8 million in 1979.

- o Its main source of computing power is ENTEL's 1108 in Madrid, but all other network hosts are accessible.

- o ID are growing revenues at a dramatic rate. From less than \$100,000 in 1978, the first year of operation, ID have planned revenues of \$1.9 million in 1980.

h. Other countries

- o INFONET has clients in Norway, Sweden and Switzerland.

- o These clients dial long-distance to the nearest access point.

- o These clients are normally supported from Brussels.

- o Revenues from these clients in 1979 amounted to some \$200,000.

4. PERSONNEL STRUCTURE

- o CSC's European personnel structure is modelled closely on that of the U.S. Parent.
- o All non-managerial sales and support personnel in Europe are graded as MR (Marketing Representative) or CSR (Customer Systems Representative).

a. Marketing Representatives (MR)

- o Marketing representatives are CSC's sales people. All accounts have an assigned MR except those handled directly by managers.
- o The MR commission scheme is based on Net Incremental Revenue (NIR) from new plus existing accounts.
- o Commission is paid monthly if the monthly NIR is exceeded, with multipliers for high over-performance.
- o Bonus is paid on new account signings, and a quality account bonus is paid for new accounts which bill in excess of a specified amount in the first three months after signing.
- o MR's in all countries are supplied with a company car (Cortina 2 litre GL). Company mileage is reimbursed. BUPA or its local equivalent is provided.
- o MR's achieving 100% of annual quota attend an annual '100% club'.

b. Customer Support Representatives (CSR)

- o CSR's provide implementation support and assistance to clients.
- o They are assigned individual accounts, but their bonus scheme, not a commission scheme is a quarterly group-based system which pays 5% of salary if the group makes 100% in that quarter.

- o CSR's do not normally receive company vehicles except in the UK where a special deal has been struck.
- o CSR's attend an annual symposium lasting 2-3 days where new products are presented.

c. Technical Systems Engineer (TSE)

- o These individuals are responsible for network support and maintenance in the individual countries.
- o They are paid flat salaries and a mileage allowance for use of their own cars on company business.

5. MARKETING POLICY

a. Services offered

- o The following services are offered:
 - Interactive and remote batch access to Univac 1100/1108 (19) operating under CSTS, a proprietary operating system;
 - Interactive and remote batch access to 1 x IBM 3033 and 2 x 370/168 operating under CSC-enhanced TSO, WYLBUR and CICS.
- o Availability is 24 hours per day, seven days a week except for 3 hours overnight Saturday/Sunday when scheduled maintenance occurs.
- o Speeds offered are:

50 baud - Telex interface;
110-300 baud - Asynchronous
1200 baud - Asynchronous

2400 baud - Synchronous

- o Hosts are physically located in Los Angeles (6), Chicago (6), Washington (4), Toronto (1), Calgary (1) and Madrid (1), with the IBM processors located in Dallas.
- o Switchers are COMTEN 20, being replaced by COMTEN 3690.
- o Direct terminal-terminal conversational usage is possible, and is used for internal purposes.
- b. Product/Application Focus - INFONET CSTS only
- o Main Product offerings are development tools for:
 - Database systems - MANAGE
 - Financial and Business Planning Systems - FLARES and EPS
- o MANAGE is proprietary and is relational to CODASYL standard. It is probably the most advanced Database offering available anywhere.
- o FLARES equates very directly to GE's FAL, and is a financial row-column manipulation product generating FORTRAN code. It is fully compatible with MANAGE.
- o EPS is a development of FCS, COMSHARE's main Financial offering until recently, and has been acquired under licence from the authors, EPS Consultants. The specific purpose is to offer a financial planning product with European language capability.
- o MANAGE and FLARES account for some 50% of RCS revenues and this proportion is increasing.
- o CSC currently offers Economic Models Ltd's, subsidiary, DISTAT time series processor and macroeconomic databases. It has recently sold EML to McGraw Hill (DRI).

- o An extensive library of other programs is available but except for certain 'door-openers' is not sold actively.
- o A Distributed Data Processing offering is being developed in the US (INFOSTATIONS).
- o However, Europe is likely to go its own way, developing an interactive business planning system on 'Superbrain', adual cassette, 64K, switchable intelligent VDU based on an Intel 8080.

c. Target Market

- o The target market can be defined as:
 - Large Organisations
 - Multilocal Applications
 - End Users
 - High 'value-added'
- o The main application focus is:-
 - International Business Planning and Reporting
- o INFONET concentrates on this application almost to the exclusion of all else.
- o What INFONET lacks in network extent and historical presence in Europe, is more than makes up for by maintaining a flexible, well coordinated 'European' approach and high application focus and hence expertise.
- o INFONET worldwide have succeeded in capturing, and holding, several major US multinational accounts from GEISCO.

d. Software Policy

- o All systems software and most utilities are developed in-house.
- o CSTS, the operating system, was written by CSC from scratch for the specific purpose of networking. CSC wrote EXEC2 and specified EXEC8 for UNIVAC. EXEC8 is still the standard operating system on UNIVAC 1108.
- o Due to replacement of 1108 hardware by 1100/80, CSC are writing a completely new operating system, due for release in 1981.
- o This system, called NTS2, was financed by a major contract from the Saudi government for an in-country timesharing network for pilgrim control.
- o Unlike many vendors, CSC makes use of its software and network for its own business planning and control.
- o Three versions of standard software are maintained and accessible by all network users - backup, current and new. The 'new' version is promoted to 'current' when all reported bugs have been fixed and after a certain time interval.
- o CSC estimate that approx 30% of the code of the operating system changes every year.
- o All changes in system software are totally user-transparent.
- o CSC is looking for software products in industry-specific areas. Terms are flexible but royalty based, and negotiated individually by the VP INFONET.

e. Delivery Modes

- o The normal delivery mode is via 300-1200 baud asynchronous terminals connected by local dialup through modems to the nearest entry port for the network.

- o An alternative is a 2400 baud synchronous using an RBT or intelligent terminal.
- o Access using normal Telex machines, interactively, is possible.
- o INFOSTATIONS, based on the Digital Equipment PDP-11 family, are being introduced as a USHS offering. Software will be a subset of MANAGE, the Database utility, and full compile capability, running under modified RSX-11 operating system.

f. Pricing Policy

- o Overall policy is to relate end-user price to sales costs.
- o This results in differential pricing in European countries for the same computer resource cost.
- o Price differentials are roughly:

- UK	- 15% over US rates
- Other direct	- 40 to 60% over US rates
- Licensees	- 10 to 20% over US rates
- o Main Charging elements are:

SRU - System Resource Unit which is
algorithmically derived price per CPU
second/disk access.

Connect charge

Storage charge

- o SRU pricing varies with prime or non-prime usage, and with the priority associated with the job. A user willing to wait over 48 hours for guaranteed turnaround pays approximately 18% of the charge per SRU for interactive use.

- o Users have the option to determine at run-time whether a job will run interactively or in batch, and at what priority.
- o Disk storage is simple and there is a single charge for a page which is 2048 ASCII characters. Discounts are available for reserved block storage.
- o Price increases are annual and designed to
 - Cover inflation
 - Adjust relative costs of charging elements.
- o Large US users may obtain 'profile pricing', which allows them to choose a pricing element mix from a four by four matrix. This is not yet available in Europe.
- o Large European users can negotiate discounts for committed levels of expenditure.

g. Languages

- o CSC is developing a European language capability in the EPS financial modelling language.

h. Contract Terms

- o A signing fee of £80, or local equivalent, is charged to discourage the non-serious prospect;
- o A monthly minimum of £80 to discourage the casual user;
- o 30 days notice of cancellation on either side.

i. Professional Services

- o CSC has traditionally drawn most of its revenues from Professional Services work, and has developed strong project management and control techniques.
- o Professional Services within INFONET is now firmly established in Europe, on both a central and country basis. CSC is the only RCS vendor in Europe offering Professional Services capability at European level.
- o Professional Services operations are well-focused into specific applications areas, and are expected to break even.
- o Resources can be, and are, drawn from CSC's large Professional Services non-INFONET operations in Europe.
- o INFONET Professional Services will not bid on Non-INFONET work, but will pass these opportunities to CSC's mainstream Professional Services staff.

6. SALES POLICY

- o CSC sees itself as the largest hardware-independent Computer Services company in the world.
- o CSC is able to sell high, and has very considerable management, sales and technical talent.
- o Selling effort in CSC is not restricted to sales personnel as all levels of management, including the President and Vice President, are actively involved in selling.
- o CSC has a strong commitment to account development.

- o All new employees, including administrative and managerial personnel are required to attend a three week training course on all aspects of INFONET.
- o All CSC personnel are aware of the high quality of their product, which includes their staff and believe that while they may not be the largest RCS vendor in Europe, they certainly are the best.
- o The main competitors to INFONET are seen by them, to be GEISCO, Comshare and ADP in that order.

7. NETWORK TECHNOLOGY INFLUENCE ON MARKETING STRATEGY

- o CSC entered the European RCS market on its own account in 1976. Its network extent reflects this.
- o However, the physical characteristics of the network make it extremely reliable and flexible.
- o INFONET is probably the only RCS network which could successfully apply for VAN status.
- o An X25 interface is being developed.
- o Network extensions are revenue-driven.
- o The network is fully redundant with all components allowing for rerouting on failure.
- o Claimed uptime of the network is 99.5%. Much effort is being expended to raise this to 99.8%.
- o Batch and interactive services are fully compatible, but the user is restricted to one individual host, and hence response times can degrade.

C. ADP NETWORK SERVICES

1. OVERALL STATISTICS

- o Ownership: 100% owned by U.S. Parent.
- o Turnover in Europe : \$21 million
 - RCS Revenues : \$18.5 million
 - CAAGR for RCS 1977-79 23.8% per annum.
- o Number of access points in Europe : 28
- o Number of staff employed in Europe : 320
- o London is the headquarters of ADP in Europe, and houses the processing capability.

2. INDIVIDUAL COUNTRY OPERATIONS

a. U.K. - ADP Network Services Ltd.

- o ADP U.K. was formed in 1976 when ADP, who had acquired Cyphernetics, bought TSL, the then largest European RCS vendor.
- o U.K. 1979 turnover was \$14 million with an average growth rate of 20%. Of this revenue, INPUT estimates that \$12.0 million was from RCS services, with \$2.0 million from professional services and terminal rental.

b. France - ADP NIS International

- o Turnover in France is estimated at \$0.5 million.
- o ADP employs 5 people in France from the only office in Paris.
- o ADP acquired a batch bureau, SERIG Informatique, in 1979. This operation is managed separately.

c. Holland - ADP NIS International

- o Turnover in Holland is estimated at \$2.5 million.
- o The only office is in Rüsrijk, and INPUT estimates that some 30 people are employed there.
- o ADP acquired a batch bureau in Holland, I.E.A., in 1974.

d. Belgium - ADP NIS International

- o Turnover in Belgium is estimated at \$1.2 million.
- o Some 16 people are employed from the only office in Brussels.

e. West Germany - ADP NIS International

- o Turnover in Germany is approximately \$1 million.
- o The German head office is in Köln with branches in Hamburg and Essen.
- o ADP in Germany employs in total some 16 people.

f. Italy - ADP NIS International

- o ADP in Italy turns over approximately \$1 million.
- o It employs some 14 people from the main office in Milan a branch office in Rome.

g. Switzerland - Winter Partners

- o ADP distributes RCS services in Switzerland via Winter Partners, who are located in Zurich.
- o INPUT estimates that some 8 people are employed and that total revenues are of the order of \$0.4 million, of which ADP receive \$0.2 million.

h. Eire - Company unknown

- o ADP offers services in Eire via a distributor, who was a former employee.
- o Some 4 people are based in Dublin.
- o Estimated revenues are \$0.2 million of which ADP receives about \$0.1 million.

3. PERSONNEL STRUCTURE

- o This section is focused on ADP's U.K. RCS structure.

a. Sales division

- o Sales personnel report via Branch Managers to four Regional Sales Directors and consist of New Business salesmen and Account Executives. Sales personnel total some 120.

- o New Business Salesmen are given a territory with no existing accounts and are paid commission of 10% of all revenues arising from those accounts in the first 12 months of their existence.
- o Account Executives are assigned a territory consisting of existing accounts and are paid a commission of 10% of all new revenues arising from these accounts.
- o All sales personnel are provided with a company car (normally Cavalier 1600 GL) and claim a mileage allowance for use on company business.
- o BUPA and a company pension scheme are provided.
- o Technical support is provided by Technical Advisers who report via Regional Technical Managers.

b. Marketing

- o ADP U.K. employs about 10 people in the marketing function, responsible for
 - Training
 - Brochures
 - Market development
 - Product support.

c. Operations

- o Some 50 people are employed in operating the hardware located in London.

d. Systems & Programming

- o Approximately 35 people are employed in ADP's professional services operation in the U.K.

e. Finance & Administration

- o Some 20 people are employed in Finance and Administration.

f. ONSITE support

- o A specialist team of ONSITE support technicians is employed in London, numbering about 5 people.

4. MARKETING POLICY

a. Services offered

- o The following services are offered:-
 - Interactive and remote batch access to 4 x DEC K110 dual systems operating under ADP-enhanced operating systems;
 - ADP ONSITE - DEC 2020 USHS linked to the network, providing local and networked processing capability.
- o Availability is 24 hours per day, 7 days per week less planned maintenance outages.
- o Speeds offered are:
 - 110-1200 baud asynchronous
 - 2400 baud synchronous
- o Hosts are located in London and the U.S.
- o Any host can be accessed from any point on the network which has, INPUT estimates, over 350 entry points worldwide.

b. Product/Application Focus

- o Main product offerings are:
 - IPL-Data Management and Reporting System
 - APECS-Project Management System
 - TSAM-Time Series Analysis
 - ORACLE/FML Finance Planning System
 - Graphics
- o All of these products are development tools.
- o All are proprietary, although some were developed by independents and then bought by ADP.
- o APECS is probably the best Project Management System available on RCS.
- o An extensive library of other programs exists but receives scant sales attention.
- o Languages in use are: BASIC, FORTRAN

c. Target Market

- o ADP's approach to a target market was summed up by one ex-employee as 'anything that moves'.

d. Software Policy

- o ADP's operating system is standard DEC modified by ADP.
- o ADP develops its own software, and will operate with software authors on a joint venture basis, but does not normally buy software.

- o ADP's Professional Services staff carry out system development for clients using ADP's proprietary development tools.

e. Delivery Modes

- o The normal delivery mode is via 300-1200 baud asynchronous terminals, connected by local dial-up through modems to the nearest entry point on the network.
- o An alternative is 2400 baud synchronous using an RBT or intelligent terminal.
- o ADP offers ONSITE, a USHS product based on DEC 2020 hardware.

f. Pricing Policy

- o The overall policy is to relate end-user price to sales costs.
- o This results in differential pricing in European countries for the same computer resource cost.
- o Main charging elements are:
 - PRU - Processor Resource Unit -Algorithmically derived price per CPU second.
 - Terminal connect
 - Storage charges
 - I/O charges using vendor's RBT.
- o Price increases are normally annual and designed to
 - Cover inflation
 - adjust relative costs of charging elements.
- o Discounts are normal, and ADP will suggest discounts for committed spend levels.

g. Languages

- o ADP do not offer any foreign-language versions of software, but do have sales literature in French, German, Italian and Dutch.

h. Contract terms

- o No sign-on fee
- o Monthly minimum charge of £10 or local equivalent;
- o Cancellation with 30 days notice either side.

i. Professional Services

- o ADP's Systems & Programming department, only established in UK, performs systems implementation for clients.
- o S & P have operated as a profit centre for some 18 months.
- o Prior to that they were merely expected to break even.
- o S & P may not quote for any job not destined to be implemented on ADP's network.

5. SALES POLICY

- o ADP Network Services have no apparently coherent sales strategy.
- o ADP Salesmen tend to go for any business in an unstructured way.

- o ADP have a high turnover rate due probably to
 - Low morale
 - Lack of coherent marketing policy
 - Low remuneration
- o ADP have lost market share in the UK significantly over the past 5 years, mainly to COMSHARE.
- o The continental operations are more successful in terms of profitability.
- o Main competitors are seen as GEISCO, COMSHARE, and 'in-house solutions'.

6. NETWORK TECHNOLOGY INFLUENCE ON MARKETING STRATEGY

- o ADP has had significant problems integrating the former TSL and Cyphernetics networks.
- o ADP's processing capacity in London has often been a limiting factor in its growth plans.
- o ADP have installed eight ONSITE systems in Europe.

7. ADP/ONSITE

- o ADP's user site hardware service, ADP/ONSITE, is based on a modified DEC-2020 mega minicomputer. ONSITE includes operating and applications software, and access to the ADP network for maintenance, operations, and back-up computers.
- o With ONSITE, the equipment is bundled with the network.
- o The 1979 average price for an ONSITE system is believed to be £7,500 per month.

- o All systems are leased for a minimum period of three years. There is no purchase option.
- o A full range of software service is offered, including the Information Processing Language (IPL).
- o ONSITE includes "link software" for compatibility with IBM 360/370 computers. Linking USHS to the host computer is a very important consideration for many users. It is also a problem to ADP, as customers are not generally satisfied that the compatibility problem is solved for ONSITE.
- o Maintenance and reliability are important features of ONSITE. ADP stresses to their clients that the DEC 2020 is a proven machine. ADP reports their current experience as:
 - Prime time availability is 99% or better.
 - Mean time to recover is 18 minutes.
 - Mean time between interruptions is 2.6 minutes.
- o ADP/ONSITE technical data
 - Number of ports is 8 to 32.
 - Size of memory is 1 to 2 MB.
 - Size of disk storage is 45 to 300 MB.

D. NATIONAL CSS

1. OVERALL STATISTICS

- o Ownership: 100% subsidiary of Dun & Bradstreet.
- o RCS Revenues in Europe: \$2.5 million
- o CAAGR for RCS 1977-79 : 45% per annum.
- o Remainder of revenue is Professional Services associated with RCS.
- o Number of access points in Europe is four.
- o Number of staff employed in Europe: 50 (approx.)
- o NCSS operates in Europe through two subsidiaries, CSS International (UK) Ltd in the UK, and CSS France in France.

2. INDIVIDUAL COUNTRY OPERATIONS

- o The President of CSS International UK Ltd is also the President Directeur Generale of CSS France.
- o National CSS established their operations in Europe amid a flurry of enthusiasm, opening branch offices in London, Paris and Bonn.
- o Their initial policy, and this has persisted to some extent, was to treat these offices as sales and support functions only, with all product marketing being done in US.
- o National CSS remains the most US-oriented vendor in Europe, with American Nationals in all senior positions, although they are increasingly 'nationalising' their image.

- o The Bonn office closed in 1978, a clear indication of the inability of this approach to penetrate the German Market.

a. U.K. - CSS International (U.K.) Ltd.

- o Turnover in the U.K. in 1979 was \$2.0 million, of which \$1.8 million were RCS revenues. The remaining \$0.2 million represents professional services revenues associated with the RCS Service.

- o CSS International (U.K.) Ltd employs 36 people.

- o Apart from London, the HQ, there is a branch office in Manchester.

- o CSS Personnel in the U.K. include:-

- 10 Marketing/Sales staff
- 10 Technical/Network Support staff
- 5 Professional Services staff
- A recently appointed Marketing Services Manager, who functions for France also.

b. France - CSS France

- o Turnover in France in 1979 was approximately \$0.5 million.

- o CSS France employs some 15 people.

- o The HQ, and only office, is in Paris.

c. Other countries

- o NCSS anticipates opening offices in Benelux during the next 2 years.

3. MARKETING POLICY

a. Services Offered

- o The following services are offered:-
 - Interactive access via Terminals to IBM 370/158 computers operating under VPSS, NCSS's own operating system.
 - Remote batch access to the above machines.
- o Availability is normally 23 hours/day, 7 days per week.
- o Speeds offered are:
 - 300-1200 baud asynchronous
 - 2400 baud synchronous
- o The hosts are physically located in the U.S.

b. Product/Application Focus

- o Main Product offering is a proprietary Database language called NOMAD.
- o NOMAD is considered to be one of the best products of its kind on the market.
- o Mathematica's RAMIS, which was developed on NCSS, is also offered.
- o NCSS have a secondary market in microprocessor cross-compilers and simulators.
- o EMS, a sophisticated time series processor incorporating access to Merrill, Lynch's Financial Data, is also offered.

- o NCSS launched a DDP offering based on a Two-Pi 3200 large minicomputer. This is not currently being offered in either the US. or Europe.

- o Languages supported are BASIC, FORTRAN, APL, PASCAL

c. Target Market

- o The target market is relatively undefined but target applications are very much DBMS-related systems, such as inventory control.
- o Lack of network extent and lack of European coverage prevent NCSS from expanding too extensively in multilocal applications.
- o Lack of a solid Business Planning product hinders NCSS penetration in this area.
- o The acquisition by Dun & Bradstreet will undoubtedly enable NCSS to extend into on-line Database markets.

d. Software Policy

- o NCSS prefer to develop all their software in-house, but have been hindered by a lack of capital. This may well change with the D & B takeover.
- o NCSS are open to, and flexible with, specialist software vendors with industry or applications knowledge.
- o Professional Services concentrate almost exclusively on NOMAD implementation.

e. Delivery modes

- o Normal delivery mode is by 300-1200 baud asynchronous terminals, connected by local dial-up through modems to the nearest entry port for the network.

- o An alternative is 2400 baud synchronous using an RBT or intelligent terminal.

f. Pricing policy

- o Pricing is historic cost-plus
- o Prices in France are higher than in U.K.
- o Main charging elements are:
 - Applications Resource Unit (ARU) - Algorithmically derived price per CPU second and disk access time.
 - Terminal connect
 - Storage charges
 - I/O charges using vendor's RBT
 - Device connect, a charge per hour for using DASD's
- o Price increases of ARU are implemented transparently, by changing the algorithm to reduce amount of ARU for a unit price.
- o Storage is charged at a unit price per cylinder per month.
- o Discounts are available for committed spend levels.

g. Languages

- o Although producing some literature in French, no attempt has been made to offer a French language version of NOMAD probably due to U.S. dominated product policies.

h. Professional Services

- o Are supplied essentially as a customer service and are not expected to make a profit. Indeed fixed price quoting has been known in order to obtain the RCS revenues.

E. COMSHARE INTERNATIONAL B.V.

1. OVERALL STATISTICS

- o Ownership: 100% subsidiary of COMSHARE INC.
- o Turnover in Europe in 1979 were \$22 million.
 - Revenues obtained from RCS were \$22 million
 - AAGR for RCS 1977-79 : 34.8 % per annum.
- o Number of access points in Europe: 23

Number of staff employed in Europe: 480
- o Comshare International B.V. (CIBV) is the holding company for Comshare's European operations. Each of the four national companies is wholly owned by CIBV.
 - Comshare commenced operations in Europe in 1971.

2. INDIVIDUAL COUNTRY OPERATIONS

- a. UK - Comshare Limited
- o Comshare Ltd was formed in 1971.
- o Revenues in 1979 are estimated to be \$20 million with an average growth rate of some 40%. Measurement is complicated by the fact that Comshare Ltd. changed its fiscal year in 1979, from calendar to July/June.

- o Comshare Ltd employs approximately 420 people.
- o Headquarters are in London.
- o Comshare Ltd has offices in the following locations:

London	Leicester
Aberdeen	Wakefield
Birmingham	Warrington
Bristol	Washington
Glasgow	Winchester

- o HQ functions are established in the following areas:

- Strategic Planning
- Finance/Administration
- Technical Services
- Marketing
- Product Development

b. Belgium - COMSHARE S.A

- o Revenues in 1979 are estimated at \$1 million with an average growth rate of some 25%.
- o Comshare S.A. employs some 12 people in Brussels.
- o Comshare S.A. lost 2 salesmen and a senior support consultant in 1979 to CSC-INFONET and this accounts for a drop in revenue growth in 1979.

c. Netherlands - COMSHARE B.V

- o Revenues in 1979 estimated at \$1 million.
- o Comshare BV employs some 10 people in The Hague.

d. France - Telesystemes

- o Comshare services are offered in France via a licence deal with Telesystemes, a French RCS vendor.
- o INPUT believes that revenues and personnel involved are insignificant, and that this arrangement, which has not really benefitted either party, may be under review.
- o Comshare has just received permission to establish a wholly owned operation in France.

4. MARKETING POLICY

a. Services offered

- o The following Services are offered:
 - Interactive and remote batch access to six Xerox Sigma nine computers operating under COMMANDER II, Comshare's own operating system, in London.
 - AMBASSADOR Service - basically a mailbox service to and from the U.S. & Canada allowing remote job processing on machines in North America.
- o Availability is 24 hours per day, 7 days per week except for scheduled maintenance periods.
- o Speeds offered are:
 - 110-1200 baud Asynchronous
 - 2400 baud Synchronous
- o Hosts are physically located in London.

o Only UK hosts are normally accessed interactively within Europe.

b. Product/Application Focus

o Main product offerings are:

- PARSEC - Financial planning systems including
 - . PLANMASTER - Financial planning
 - . FCS - Financial planning
 - . TACTICS - Statistical analysis
 - . COMPOSIT 77 - Database manager
 - . SITE - Demographic Database
- VISOR - Engineering systems including
 - . VMM - Materials management system
 - . VPS - Production scheduling
 - . VRL - Reporting language for above.
- MONITA - Banking systems including
 - . FEAMIS - Foreign exchange
Credit analysis
Portfolio management.
- COUNSELA - Government systems including
 - . PREMIS - Council House Maintenance
budgetting;
Financial planning for treasurers
Time sheet analysis
Vehicle maintenance
- QUESTOR - Personnel systems

o As can be seen, COMSHARE has gone for vertical product lines addressed to specific user communities. In this respect it is unique among U.S. RCS Vendors in Europe.

o Each of these product ranges has a business manager and product management responsible for applications tailoring using basic building -block software tools.

o PARSEC accounts for over 50% of Comshare's revenues in Europe.

- o Comshare recruits industry experts with computer knowledge, rather than vice-versa, to manage product ranges.
- o Comshare's approach to distributed Data processing involves the use of intelligent terminals for Data entry and validation.
- o Languages supported are:
 - BASIC
 - FORTRAN
 - CORAL
 - PASCAL
 - APL
 - COBOL

c. Target Market

- o Comshare's target market can be defined as:-
 - Financial planning in large companies;
 - Engineering companies with materials management requirements;
 - Banks active in the international money markets;
 - Government (Central & local)
- o This targetting arises from two basic factors, namely:
 - Comshare's vertical industry specialisation approach;
 - Comshare's lack of a truly international network.
- o Comshare have experienced above average growth rates as a result of their forward - looking productisation policies. Their lack of a true international network, however places them at a severe disadvantage for multinational applications, and makes them particularly vulnerable to revenue erosion from mini/micro vendors.

d. Software Policy

- o Comshare develop their software in-house.
- o In order to establish market presence, Comshare have entered into joint agreements with software product vendors (e.g. EPS consultants with FCS). However, their verticalisation policy required them to have control over tool-development and for this reason they have developed parallel products which form an integral part of their product ranges, and which they now promote to the detriment of independent vendors products.
- o Comshare are vulnerable in respect of their ageing Xerox hardware, and have ordered 24 replacements from Honeywell which are being gradually introduced. These processors are Sigma-compatible in order to minimise software conversion costs.

e. Delivery modes

- o Normal delivery mode is via 110-1200 baud asynchronous terminals, connected by local dial-up through modems to the nearest entry port for the network.
- o An alternative is via 2400 baud synchronous using an RBT or intelligent terminal.
- o Comshare have not announced a USHS offering, but are believed to be developing remote terminal intelligence in conjunction with several hardware vendors and within their industry marketing strategy. No Comshare software will be down loaded or made available on these terminals.

f. Pricing policy

- o Comshare aim for transaction value-added pricing.

- o They have only achieved this with specific industry-g geared products.
- o For the remainder, Comshare follows the normal policy of historic cost-plus increased to cover inflation.
- o Main charging elements are:-
 - CCU - Comshare computer unit.
Algorithmically derive dprice per CPU second and disk acces time.
 - PTT - Production terminal time
Connect charge varying according to speed.
 - Storage - CSU
 - I/O charges using RBT
 - DMU - for QUESTOR only.
- o Storage charges vary per 2,048 byte block depending on overall amount of storage used.
- o DMU'S (Data Management units) are charged per QUESTOR command.
- o FEAMIS, the Foreign Exchange system, is priced purely transactionally. The FEAMIS user does not incur connect charges, storage charges or printing charges - he pays a price per transaction.
- o Comshare would like to extend this pricing method widely, but recognise that it can only apply to 'canned systems' -otherwise the opportunities for 'gaming' are too extensive.
- o Comshare's policy on discounts can best be described as 'extremely flexible'.

g. Languages

- o As over 90% of Comshare's European revenue comes from the U.K., they have not made any attempt to provide local language versions of software.

h. Contract terms

- o No sign-on fee
- o No monthly minimum
- o Termination on 30 days notice from either side.

i. Professional Services

- o Comshare do not operate a professional services function as such.
- o Comshare normally quote for all proposed systems, and the charge for any associated programming is rarely likely to cover costs let alone be profitable.
- o Programming is done by support consultants.
- o Comshare have always regarded the provision of programming assistance as merely another sales aid.
- o The vertical marketing approach adopted by Comshare requires, in any case, less customisation than the more conventional tool-based approach.

5. SALES POLICY

- o Comshare are an aggressive RCS vendor whose presence is felt everywhere in the U.K. RCS market.
- o Comshare have excellent management, a good strategy, and high morale.
- o Staff turnover is negligible.

- o Comshare sell vertically in industry-specific areas and recruit sales personnel with application rather than computing knowledge.
- o Comshares' main competitors are GEISCO, IBM and ADP.

6. IMPACT OF NETWORK TECHNOLOGY ON MARKETING POLICY

- o Comshare's network is less advanced than most RCS networks, in that it is essentially a U.K. network with a few continental nodes and links to the U.S. and Canada.
- o Comshare are therefore precluded largely from the multinational business planning market. They have made up for this by verticalisation.
- o This unfortunately makes them somewhat vulnerable to micros and minis.

F. STSC INC SCIENTIFIC TIME SHARING CORPORATION

1. OVERALL STATISTICS

- o Ownership: U.K. & Germany - 100% owned subsidiaries
 - Spain - 40% owned affiliate
 - France - Independent distributor
 - Holding Co. for Europe : APL * PLUS International
- o Total turnover in Europe : \$321,000 (revenues to STSC)
 - \$400,000 (Total-INPUT estimate)
- Growth rate 78-79 - 250%
- o Number of access points in Europe: None (TYMNET used)
- o Number of staff employed in Europe : Direct : 20
 - Distributors : 20
- o STSC operates through wholly owned subsidiaries in the U.K. and Germany, through an affiliate in Spain, and through an independent distributor in France who also has Belgium, Italy, Luxembourg and the Netherlands as territory.

2. INDIVIDUAL COUNTRY OPERATIONS

a. U.K. - APL * PLUS Ltd

- o INPUT estimates revenues of approximately \$140,000 for 1979
- o APL * PLUS Ltd employs approximately 10 staff.
- o The only office is in London.
- o Of the staff INPUT estimate that:
 - three are salesmen
 - four are technical support staff
 - the remaining three represent the manager plus administration.

b. Germany - (APL * PLUS) International (Deutschland) GmbH

- o INPUT estimates revenues of approximately \$100,000 for 1979.
- o APL * PLUS International (Deutschland) GmbH employs some 10 staff.
- o The only office is in Düsseldorf.
- o The staff breakdown is similar to the U.K.

c. Spain (APL * PLUS International S.A.)

- o INPUT estimates total revenues of \$60,000 in 1979, staff of six, working from the only office in Madrid.

d. France (Société de Traitements et de Services Conversationnels)

- o This company has marketing rights to STSC services in France, Italy, and Benelux.
- o INPUT believes that this company was founded by STSC to avoid the French Governments insistence on 50% shareholding by French nationals in 'informatique' vendors. The initials add weight to this theory, and in all probability it is wholly staff-owned.
- o The only office is in Paris.
- o INPUT assumes 14 staff, distributed in a similar fashion to other countries.
- o INPUT estimates that royalties paid to STSC Inc. amounted to some \$50,000 which would indicate a total revenue of some \$100,000 (assuming royalty is 50%).

3. MARKETING POLICY

a. Services offered

- o The following services are offered:-
 - Interactive and Remote Batch access to an AMDAHL 470/V6-11 operating under OS/MVT (APL only);
 - Interactive and Remote Batch access to IBM 370/148 under VM (APL, COBOL, FORTRAN & PL/I);

- Sales of APL * PLUS for in-house use;
 - Software support to Magnusson clients under a joint marketing arrangement.
- o The service is offered in Europe via TYMNET. This means that clients of STSC must also be TYMNET clients, and are charged by TYMNET for connect time.
 - o All 1979 revenues in Europe were from interactive services.
 - o Hosts are located in Bethesda, Md.
- b. Product Focus
- o A financial planning system (FPS) developed in APL.
 - o A materials management system (CMCS) also developed in APL by a company, Materials Management Systems Inc, whose President is a Director of STSC.
- c. Target Market
- o Market opportunities are pursued on an opportunistic basis, but are likely to be networked applications.
- d. Software Policy
- o STSC uses standard operating systems with some proprietary enhancements.
 - o Applications software is developed in-house in APL.
 - o STSC do not appear to be actively seeking external software of any kind.
 - o STSC also do not appear to be considering entering the on-line database market.

- o As a small vendor, STSC are actively pursuing opportunities to sell their software to IBM-compatible installations.

e. Delivery modes

- o Delivery is by 300-1200 baud interactive terminal via TYMNET, or via STSC RBT.

4. SALES POLICY

- o STSC are a small, private vendor of RCS services.
- o STSC specialise in APL services only.
- o STSC's main competitor is I.P.Sharp.
- o STSC sell business planning systems to multilocal clients.
- o STSC are keen to emulate I.P.Sharp in selling their systems for in-house use.

G. I.P. SHARP ASSOCIATES

1. OVERALL STATISTICS

- o Ownership: Private Corporation, Incorporated in Canada.
- o INPUT estimates turnover in Europe for RCS of \$10.5 million.
- o AAGR for RCS 1977-79: 58% per annum.
- o Number of staff employed in Europe is approximately 100
- o Number of access points in Europe: 22 + VAN (TYMNET, TELENET)
- o Sharp operate in each country through wholly-owned subsidiaries who report to the General Manager, Europe
- o The main European operation is London where certain HQ-type functions are located.

2. EUROPEAN FUNCTIONS

- o The General Manager for Europe is located in London.
- o Sharp's only salesman, who was hired to sell Sharp's APL for in-house use, reports to the General Manager.
- o A small number of network support specialists, five are located in London.
- o There is also a systems support group located in London.
- o Much support for Sharp's European operation comes from Toronto, including marketing literature and industry specialist knowledge.

3. INDIVIDUAL COUNTRY OPERATIONS

a. U.K. - I.P. Sharp Associates Limited

- o Revenues in 1979 are estimated at \$3.6 million.
- o Some 45 personnel are employed in offices located in:
 - Aberdeen
 - London (HQ)
 - Gloucester
 - Coventry
 - Manchester
- o Each of these locations has a Branch Manager with approximately four staff.

b. France - Société I.P. Sharp S.A.R.L.

- o Revenues in 1979 are estimated at \$0.5 million.
- o INPUT estimates a staff of six based in the only office in Paris.

c. Netherlands - Intersystems B.V.

- o Intersystems is a wholly-owned subsidiary of Sharp, and was acquired in 1974 for its telecommunications expertise.
- o Revenues in 1979 are estimated at \$1.5 million.
- o INPUT estimates some 12 staff based in the only office in Amsterdam.

d. Germany - I.P. Sharp GmbH

- o INPUT estimates revenues in 1979 of \$0.8 million.
- o An estimated staff of nine work from offices in Düsseldorf and Stuttgart.

e. Switzerland - I.P. Sharp A.G.

- o INPUT estimates revenues in 1979 of \$0.7 million.
- o An estimated staff of five work from the only office in Zurich.

f. Italy - I.P. Sharp S.r.l.

- o INPUT estimates revenues in 1979 of \$0.7 million.
- o An estimated staff of eight work from the only office in Milan.

g. Norway - I.P. Sharp A/S

- o INPUT estimates revenues in 1979 of \$0.3 million.
- o An estimated staff of four work from the only office in Oslo.

h. Sweden - I.P. Sharp AB

- o INPUT estimates revenues in 1979 of \$0.6 million.
- o An estimated staff of five work out of the only office in Stockholm.

i. Denmark - I.P. Sharp ApS

- o INPUT estimates revenues in 1979 of \$0.4 million.
- o An estimated staff of four work from the only office in Copenhagen.

j. Austria - I.P. Sharp Ges.mmbH

- o INPUT estimates revenues in 1979 of \$0.4 million.
- o An estimated staff of four work from the only office in Vienna.

k. Belgium - I.P. Sharp S.A

- o INPUT estimates revenues in 1979 of \$0.8 million.
- o An estimated staff of six work from the only office in Brussels.

4. PERSONNEL STRUCTURE

- o Sharp is unique among RCS vendors in Europe in that it employs no RCS salesmen.
- o Each country has a branch manager, a network technician, and a number of consultants.
- o Consultants are APL programmer/analysts who assist clients in system implementation.
- o Consultants do not receive any bonus or commission.
- o Consultants are provided with company cars.
- o A profit-sharing scheme is operated, with participation based on length of service and salary.

5. MARKETING POLICY

a. Services offered

o The following services are offered:-

- Interactive to remote batch access to 2 x AMDAHL 470/V6-11 running under DOS.
- Sale or rental of any or all of Sharp's APL software.

o Availability is 24 hours per day, 7 days per week.

o Speeds offered are:-

50 baud	Telex
300 baud	asynchronous
1200 baud	asynchronous
2400 baud	synchronous

o Sharp's only data centre is in Toronto.

o Direct interconnection of IBM-compatible hosts under 2780/3780 emulation is possible.

o User providing a dedicated 370x device can become a private network node.

o Sharp's network is interfaced to DATAPAC, the Canadian public packet switched network.

b. Product/Application Focus

o Sharp only offers APL-based software.

o Main product offerings are:

- MAGIC - a time-series processor;
 - AIDS - a business planning and forecasting system;
 - GOFER - a system for evaluating oil/gas development potential;
 - Packages for actuaries and portfolio management;
 - SARTOMS - a text management system;
 - Graphics & statistical routines.
- o Sharp have an extensive library of on-line databases, including -
- AIRLINE - full passenger, revenue & traffic statistics for the U.S.;
 - SOCIO-ECONOMIC - CANSIM, NBER, CSO, NFS, USWPI, USCPI, IMF and currency Databases;
 - BANKING - Canadian Banking financial statistics;
 - SECURITIES - US & Canadian stock exchange Data;
 - ACTUARIAL - Canadian actuarial statistics.
- o Sharp are now selling their products for in-house use on any 370 compatible mainframe. Versions are available for MVT and MVS.

c. Target Market

- o Sharp do not actively sell RCS in Europe.
- o Sharp's business in Europe comes from U.S. and Canadian multinationals, and from clients such as European airlines who access the US air traffic Databases.
- o For software sales, the target market is clearly large organisations with IBM 370-compatible mainframes and a requirement for sophisticated APL software.

d. Software Policy

- o Sharp do not buy in software.
- o Their normal approach to externally written APL software is to try to hire the author.
- o The AMDAHL's run under standard IBM operating systems.
- o Databases are purchased as necessary. Sharp do not normally charge the end user for access to these databases.

e. Delivery modes

- o Normally delivery is via 300-1200 baud asynchronous APL terminal connected by local dial-up through modems to the nearest network, TYMNET or TELENET mode.
- o An alternative is 2400 baud synchronous using an RBT or intelligent terminal under 2780/3780 emulation.
- o Normal telex machines can be used interactively.

f. Pricing policy

- o Pricing is historical.
- o Sharp have not raised their prices for 3 years.
- o Price differentials exist in Europe, but these are due to fluctuations in exchange rates since the prices were fixed.

o Main charging elements are:-

- CPU (believed related to 370 CPU second)
- Connect charge
- Character charge
- Storage charge

o Connect charges are low (\$1 per hour equivalent)

o Storage is charged per track.

o Character transfer rates, essentially network usage charges, are lower for high speed operation 2400 baud rates.

b. Languages

o Sharp produce some local language literature and documentation, but all software exists in English only.

h. Contract terms

o No sign-on fee

o No monthly minimum

o 30 days notice of cancellation on either side.

i. Professional Services

o Sharp do not offer professional services

6. SALES POLICY

- o Sharp do not actively sell RCS in Europe.
- o Sharp consultants are available, free, to assist clients in implementing systems, but Sharp will not take responsibility for system implementation.
- o Sharp believe they are the world's foremost experts in APL.

7. NETWORK TECHNOLOGY INFLUENCE ON MARKETING STRATEGY

- o Sharp introduced their own private packet-switched network in 1976.
- o The Sharp network is connected to TYMNET, TELENET and TELEX.
- o Network extensions are driven by client requirements.
- o Local support is provided when cost justified.
- o Sharp's policy of allowing their APL expertise, extensive network and extensive Databases to sell themselves appears to work effectively.
- o Sharp therefore have the highest revenue/staff ratio, \$100,000 per employee, of any RCS vendor in Europe.

H. CISI

1. OVERALL STATISTICS

- o Ownership: 100% subsidiary of CEA (Atomic Energy Authority)
- o RCS revenues in Europe : \$61.4 million
- o CAAGR for RCS 1977-79 : 48% per annum
- o Remainder of revenues from other computer-related Services. (\$76 million)
- o Number of access points in Europe : in excess of 40
- o Number of staff employed in Europe : 1600

2. INDIVIDUAL COUNTRY OPERATIONS

a. France (CISINET)

- o 1979 RCS revenues: 46.4 million (estimated)
- o Headquarters are in Paris.
- o CISINET employs some 1000 people in France.
- o CISI has offices in:

Paris (6)	Mulhouse
Angers	Nancy
Bordeaux	Nice
Cadarache	Nimes
Grenoble	Rennes
Lille	Strasbourg
Lyon	Tarbes

Marseille Toulouse
Maubeuge

b. U.K. - (SIA)

- o RCS revenues for 1979 : \$11 million (estimate)
- o SIA headquarters are in London.
- o SIA employs some 230 people.
- o SIA has offices in:

London Glasgow
Birmingham Manchester
Bradford
Edinburgh

c. Belgium (CIG)

- o CISINET is offered in Belgium via an arrangement with CIG.
- o Revenue is estimated at \$1.0 million.
- o Access is provided from Brussels, Liege and Antwerp.

d. Netherlands (SIA)

- o SIA offers services in the Netherlands via a network node in Rotterdam.
- o Revenue is estimated at \$1.4 million.
- o SIA has an office in Schiedam.

e. West Germany (LKS Datenservice)

- o CISI distributes services in the Saarbrücken area via its local subsidiary, LKS.
- o Revenues are estimated at \$0.4 million.

f. Morocco (CMSI)

- o Access to CISINET from Rabat, where CISI has a 48% share of CMSI jointly with the Moroccan Development Agency.

g. U.S.A. (PCS)

- o CISI acquired PCS (Proprietary Computer Systems of California) in 1979.
- o PCS distribute RCS services in the U.S. via some 10 offices and employ c. 150 staff.

h. Spain (CCS)

- o CISI recently acquired a 10% interest in Centro de Calculo de Sabadell, giving it an entry into the Spanish market.

3. PRODUCTS

- o CISI's predominant strength is in Scientific and Technical processing as a result of its history of involvement with the CEA, research laboratories, engineering groups, the petroleum industry, aerospace etc. CISI's prime T/S language is APL.

- o However, an increasing ability in general business procedures (essentially Batch-based) has enable CISI to offer, on the one hand, standard programme products for administration/financial processing (payroll, Inventory Control, Financial management, personnel management, Bookkeeping, Sales Accounting, Invoicing) and on the other hand custom-developed single programme or integrated systems for individual user needs.
- o General Business applications include:
 - CISCOMPTE (General Accounting)
 - CISPAIE (Payroll)
 - Personnel 2000 (Staff Management)
 - CISMUN (Local council/government management suite)
 - ECOFI (banking administration)
 - stock processing library
 - medical file processing (database oriented)
- o Database systems include:
 - System 2000 (Batch/transaction-oriented) which can be used with COBOL or FORTRAN programs or through a unique language.
 - IMS-DLI (Batch/Interactive) for extra large databases in COBOL or PL/1. A terminal management system allows high volume, simultaneous interrogation from remote terminals.
- o Access of the data banks is also possible through ATHESA (APL-VSPC), MISTRAL and MILOR.

These systems offer not only data retrieval but include processing, statistical analysis and the corresponding printing facilities.

- o The scientific/technical group of services is very diverse. It cannot be extensively listed here, but includes programmes for information processing on:
 - public works/engineering
 - aerospace projects
 - nuclear centre construction
 - off-shore oil platforms
 - tanker stress
 - CAD projects (initially computers now electronics industry)
 - NC projects (APT language, IFAPT,PROMO and routine library).
 - real time/automation
 - cartology/geology and related areas.

4. DATA BASE ACTIVITIES

- o One of the substantial activities of the next few years will certainly be the provision of On-Line Information Services.
- o Already now CISI is offering some twelve data bases on CISINET, French, European and American networks.
- o Several of these Data Bases have been created or adapted to On-Line distribution with support from the MIDIST.
- o Two important Data Bases which have MIDIST backing are the TRANSINOVE base created by BRIC and ANVAR on Transferable patents and Innovative Technologies and a second Base which is an Industrial Products Catalogue, created by different official organisations, a publisher, the CEA and the DRST. Two other projects will soon be getting MIDIST approval, one of them on "sub-contracting".
- o Beside these two CISI offers several British Data Bases, based created by OCDE and of course French Data Banks.

- o The subjects may vary from economic bases (series, indicators etc.) through to scientific Bases.
- o Profitability of this type of service will surely be achieved with the Euronet CRONOS Data Base of 600,000 Economic Series. This Base will be incorporated shortly and is based on an EEC contracts with CISI and a Danish Services Company. It will be available on CISINET and Euronet (it is already available on the Euronet ICL system).
- o An interesting development is the move (DIELI initiated) on the CRIDON Notarial Data Base from CISI-Euroinfor who was the serveurur for several years to G-CAM-SYDONI.
- o The Caisse de Depots, G-CAM's parent has close links with the body grouping the Notaries and also offered to support the project to the tune of 6MF.
- o This loss is certainly a blow to CISI.
- o Among CISI's Data Base related activities a project with WTCC of Canada is currently underway. A joint company with \$1M capital (75% CISI, 25% WTCC) has been formed for the development and eventual provision of Automatic Translation Services.
- o Other areas are being explored and discussions have been had with various publishers for interaction on a Creator - Serveur - Distributor relationship for the supply of Data Bases.

5. GENERAL PHILOSOPHY

At the present state of development the profitability of data bases is not fully obvious neither for an independent creator nor for an independent serveurur be it on a Supermarket approach or on a fully exclusive basis.

- o Despite official DIELI policy favouring creators over serveurs as distributors (and possibly a consequent lack of support for CISI from the quarter) CISI

favours the joint venture solution in order to provide a joint risk as well as joint funding.

- o This measure of exclusivity favours marketing efforts by the serveur while a Supermarket service would have less attraction in this direction.

6. CURRENT AND FUTURE ACTIVITIES

- o Linked to the Data Base subject, one of the services promoted actively by CISI is an Interactive General Management System providing data manipulation tools and decision making aids on an interactive basis.
- o The loss of several large contracts either to in-house systems or like the CRIDON data Base to SYDONIE coupled to current difficulties in obtaining large customers due to the general economic climate has impulsed them to turn their marketing attention to small and medium size accounts.

Videotex, Teletel

One area in which they are interested in going even further and approaching the consumer market is the Teletel, Videotex market and one of their interests is in being the host to Teletel for private applications.

- o At the moment the costs for this type of operation are too large as far as the potential users are concerned, particularly since line costs are high but they think it will be a very attractive proposition in the medium term.
- o CISI through GIXI have had several contracts for the provision of Videotex services to private enterprises and are gathering experience for such applications.

